

1. [Docs] NetPing 2 IP PDU ETH 53R14 & NetPing 2 IP PDU GSM3G 203R15	3
1.1 [ENG] [DKSF 253/203.1 IU] NetPing 2 IP PDU ETH 53R14 & NetPing 2 IP PDU GSM3G 203R15, Firmware description	4
1.1.1 [ENG] 1. [DKSF 53/203.1 IU] Introduction	5
1.1.2 [ENG] 2. [DKSF 53/203.1 IU] Getting Basic Information About the Device	6
1.1.2.1 [ENG] 2.1. [DKSF 53/203.1 IU] Default Username and Password	7
1.1.2.2 [ENG] 2.2. [DKSF 53/203.1 IU] Connection To the Device Web-Interface With Default Authorization	8
1.1.2.3 [ENG] 2.3. [DKSF 53/203.1 IU] How to Find Out a Default IP Address and a MAC Address of a Device?	9
1.1.2.4 [ENG] 2.4. [DKSF 53/203.1 IU] I Need to Know the Firmware and Hardware Versions and a Serial Number of a Device	10
1.1.2.5 [ENG] 2.5. [DKSF 53/203.1 IU] How to See The Uptime?	11
1.1.2.6 [ENG] 2.6. [DKSF 53/203.1 IU] Where to Find the Hostname, Location and Contact of a Device?	12
1.1.2.7 [ENG] 2.7. [DKSF 53/203.1 IU] How to Reboot the Device	13
1.1.3 [ENG] 3. [DKSF 53/203.1 IU] Basic Configuration	14
1.1.3.1 [ENG] 3.1. [DKSF 53/203.1 IU] How to Configure a Hostname, a Location and Contact?	15
1.1.3.2 [ENG] 3.2. [DKSF 53/203.1 IU] Where to Change Settings of a Network Interface?	16
1.1.3.3 [ENG] 3.3. [DKSF 53/203.1 IU] Changing a Username and a Password	17
1.1.3.4 [ENG] 3.4. [DKSF 53/203.1 IU] How to Set Community for SNMP?	18
1.1.3.5 [ENG] 3.5. [DKSF 53/203.1 IU] How to Restrict the Access to a Device?	19
1.1.3.6 [ENG] 3.6. [DKSF 53/203.1 IU] There Is a Need to Send SNMP Trap Notifications. How to Configure This?	20
1.1.3.7 [ENG] 3.7. [DKSF 53/203.1 IU] How to Set the Clock?	21
1.1.3.8 [ENG] 3.8. [DKSF 53/203.1 IU] How to Increase the Time of Stand-Alone Operation of a Device?	22
1.1.3.9 [ENG] 3.9. [DKSF 53/203.1 IU] I Want to Configure SYSLOG. How to Do This?	23
1.1.3.10 [ENG] 3.10. [DKSF 53/203.1 IU] How to Get Notifications and Reports via Email?	24
1.1.3.11 [ENG] 3.11. [DKSF 53/203.1 IU] How to Update Firmware in the Device?	25
1.1.3.12 [ENG] 3.12. [DKSF 53/203.1 IU] System Log of the Device	26
1.1.3.13 [ENG] 3.13. [DKSF 53/203.1 IU] Backup and Restoration of a Device Configuration	28
1.1.3.14 [ENG] 3.14. [DKSF 53/203.1 IU] How to Disable Notifications at Initialization After Firmware (Re)Start?	29
1.1.4 [ENG] 4. [DKSF 53/203.1 IU] Working with Temperature Sensors	30
1.1.4.1 [ENG] 4.1. [DKSF 53/203.1 IU] What Temperature Sensors are Supported By this Device?	31
1.1.4.2 [ENG] 4.2. [DKSF 53/203.1 IU] Where to See The Current Temperature	32
1.1.4.3 [ENG] 4.3. [DKSF 53/203.1 IU] Is It Possible to Set a Description for Temperature Sensors?	33
1.1.4.4 [ENG] 4.4. [DKSF 53/203.1 IU] Configuring Upper and Bottom Thresholds of a Norm of a Temperature Sensor	34
1.1.4.5 [ENG] 4.5. [DKSF 53/203.1 IU] I Want to Configure Sending Notifications When a Status of a Temperature Sensor Is Changed. How to Do This?	35
1.1.5 [ENG] 5. [DKSF 53/203.1 IU] Working with a Humidity Sensor	36
1.1.5.1 [ENG] 5.1. [DKSF 53/203.1 IU] What Humidity Sensor is Supported By the Device?	37
1.1.5.2 [ENG] 5.2. [DKSF 53/203.1 IU] Browsing Readings and Configuring Parameters of a Humidity Sensor in a Web Interface	38
1.1.5.3 [ENG] 5.3. [DKSF 53/203.1 IU] I Want to Configure Sending Notifications When Changing a Status of a Humidity Sensor. How to Do This?	39
1.1.6 [ENG] 6. [DKSF 53/203.1 IU] Working With a Built-In Relay	40
1.1.6.1 [ENG] 6.1 [DKSF 53/203.1 IU] Configuring Relay Control Modes	41
1.1.6.2 [ENG] 6.2 [DKSF 53/203.1 IU] I Want to Configure Sending Notifications about the Events on the Triggering of a Relay. How to Do This?	43
1.1.7 [ENG] 7. [DKSF 53/203.1 IU] Working with Channels of Discrete Input-Output	44
1.1.7.1 [ENG] 7.1. [DKSF 53/203.1 IU] Is It Possible to Set a Description for an Input-Output Line?	45
1.1.7.2 [ENG] 7.2. [DKSF 53/203.1 IU] Configuring the Operation Mode of an Input-Output Line	46
1.1.7.3 [ENG] 7.3. [DKSF 53/203.1 IU] How to Determine a Current Logic Level on an Input-Output Line?	47
1.1.7.4 [ENG] 7.4. [DKSF 53/203.1 IU] How to Manage an Input-Output Line in the «Output» Mode?	48
1.1.7.5 [ENG] 7.5. [DKSF 53/203.1 IU] I Want to Configure Sending Notifications When a Logic Level of an Input-Output Line Is Changed. How to Do This?	49
1.1.7.6 [ENG] 7.6. [DKSF 53/203.1 IU] What Is the Filter of Short Noise Pulses in the Settings of an Input-Output Line Needed For	51
1.1.8 [ENG] 8. [DKSF 53/203.1 IU] Working with SMS Notifications and a Built-in GSM Modem	52
1.1.8.1 [ENG] 8.1. [DKSF 53/203.1 IU] How to Find Out a Balance on the SIM Card?	53
1.1.8.2 [ENG] 8.2. [DKSF 53/203.1 IU] I Need to Specify a Number for Sending SMS Notifications. How to Do This?	54
1.1.8.3 [ENG] 8.3. [DKSF 53/203.1 IU] How to Enable an Extended Log for a GSM Modem?	55
1.1.8.4 [ENG] 8.4. [DKSF 53/203.1 IU] Checking the GSM Signal Strength	56
1.1.8.5 [ENG] 8.5. [DKSF 53/203.1 IU] Receiving SMS-Notifications about Previously Specified Events	57
1.1.8.6 [ENG] 8.6. [DKSF 53/203.1 IU] GSM Modem Does not Work. How to Reboot It?	58
1.1.8.7 [ENG] 8.7. [DKSF 53/203.1 IU] What SMS Notifications Can the Device Send?	59
1.1.8.8 [ENG] 8.8. [DKSF 53/203.1 IU] How to Control The Device Using SMS Commands	62
1.1.8.9 [ENG] 8.9. [DKSF 53/203.1 IU] Setting the Time of Sending a Daily Report about a Status of Sensors, IO Lines and Relays as SMS Notification	67
1.1.8.10 [ENG] 8.10. [DKSF 53/203.1 IU] How to Know the IMEI of a Built-in GSM Modem?	68
1.1.9 [ENG] 9. [DKSF 53/203.1 IU] Working with an IR Operating Module	70
1.1.9.1 [ENG] 9.1. [DKSF 53/203.1 IU] How to Record IR Commands Correctly?	71
1.1.9.2 [ENG] 9.2. [DKSF 53/203.1 IU] Reproducing IR Commands through the Web Interface	72

1.1.9.3 [ENG] 9.3. [DKSF 53/203.1 IU] Is It Possible to Reproduce IR Commands through the SNMP?	73
1.1.9.4 [ENG] 9.4. [DKSF 53/203.1 IU] How to Determine the Firmware Version of the IR Module?	74
1.1.9.5 [ENG] 9.5. [DKSF 53/203.1 IU] Recommendations	75
1.1.10 [ENG] 10. [DKSF 53/203.1 IU] Working with the Module «Logic»	76
1.1.10.1 [ENG] 10.1. [DKSF 53/203.1 IU] What Is «Logic»?	77
1.1.10.2 [ENG] 10.2. [DKSF 53/203.1 IU] How to Use the Module «Logic»?	78
1.1.10.3 [ENG] 10.3. [DKSF 53/203.1 IU] Configuring Thermo(Hygro)Stat	81
1.1.10.4 [ENG] 10.4. [DKSF 53/203.1 IU] How to Configure Pinger in the Module «Logic»?	83
1.1.10.5 [ENG] 10.5. [DKSF 53/203.1 IU] What Is SNMP SETTER?	84
1.1.10.6 [ENG] 10.6. [DKSF 53/203.1 IU] Reset Signal and Initial Statuses of Outputs	86
1.1.10.7 [ENG] 10.7. [DKSF 53/203.1 IU] Connecting Relays and IO Lines	87
1.1.10.8 [ENG] 10.8. [DKSF 53/203.1 IU] IR Commands	88
1.1.10.9 [ENG] 10.9. [DKSF 53/203.1 IU] Examples of Configuring the Module «Logic»	89
1.1.11 [ENG] 11. [DKSF 53/203.1 IU] Working with the Module «Watchdog»	93
1.1.11.1 [ENG] 11.1. [DKSF 53/203.1 IU] What Is «Watchdog» and How to Configure It?	94
1.1.12 [ENG] 12. [DKSF 53/203.1 IU] Working with the Module «Schedule»	96
1.1.12.1 [ENG] 12.1. [DKSF 53/203.1 IU] What Is «Schedule», and How to Configure It?	97
1.1.13 [ENG] 13. [DKSF 53/203.1 IU] Support of an SNMP Protocol by a Device	99
1.1.13.1 [ENG] 13.1. [DKSF 53/203.1 IU] Can I Control a Device Using SNMP?	100
1.1.13.2 [ENG] 13.2. [DKSF 53/203.1 IU] Configuration of Sending SNMP TRAP Notifications	101
1.1.13.3 [ENG] 13.3. [DKSF 53/203.1 IU] What OIDs a Device Supports?	104
1.1.13.4 [ENG] 13.4. [DKSF 53/203.1 IU] SNMP TRAP Support	108
1.1.14 [ENG] 14. [DKSF 53/203.1 IU] HTTP API Device Support	112
1.1.14.1 [ENG] 14.1. [DKSF 53/203.1 IU] Controlling IO Lines	113
1.1.14.2 [ENG] 14.2. [DKSF 53/203.1 IU] Relay Control	115
1.1.14.3 [ENG] 14.3. [DKSF 53/203.1 IU] Controlling Temperature Sensors	117
1.1.14.4 [ENG] 14.4. [DKSF 53/203.1 IU] Controlling a Humidity Sensor	118
1.1.14.5 [ENG] 14.5. [DKSF 53/203.1 IU] Managing an IR Commands Transceiver	119
1.1.14.6 [ENG] 14.6. [DKSF 53/203.1 IU] Controlling GSM Modem	120
1.2 [ENG] NetPing 2 IP PDU ETH 53R14 & NetPing 2 IP PDU GSM3G 203R15, User guide	122
1.2.1 [ENG] [DKST 51] Introduction	123
1.2.2 [ENG] [DKST 51] Disclaimer and Copyright	124
1.2.3 [ENG] [DKST 51] Shipping Kit for The Device	125
1.2.4 [ENG] [DKST 51] Overview and Key Features	126
1.2.5 [ENG] [DKST 51] Features of Local Controls, LEDs, and Sockets on a Case of the Device	129
1.2.6 [ENG] [DKST 51] Connection, Installation, and Initial Configuration of the Device	132
1.2.7 [ENG] [DKST 51] Autonomous operation	137
1.2.8 [ENG] [DKST 51] Connecting External Sensors and Accessories	138
1.2.9 [ENG] [DKST 51] Using IO Lines in the «Output» Mode for Controlling External Devices	145
1.2.10 [ENG] [DKST 51] Resetting Parameters to Default Values	147
1.2.11 [ENG] [DKST 51] Operating, Storage, Transportation and Disposal Information	149
1.2.12 [ENG] [DKST 51] Safety Precautions	150
1.2.13 [ENG] [DKST 51] Firmware Update	151
1.2.14 [ENG] [DKST 51] Warranty	152
1.2.15 [ENG] [DKST 51] Where to Get the Document with the Firmware Description?	153
1.2.16 [ENG] [DKST 51] What to Do if There Are Still Some Questions?	154

[Docs] NetPing 2 IP PDU ETH 53R14 & NetPing 2 IP PDU GSM3G 203R15



NetPing server room environmental monitoring solutions and IP power distribution units.

[ENG] [DKSF 253/203.1 IU] NetPing 2 IP PDU ETH 53R14 & NetPing 2 IP PDU GSM3G 203R15,
Firmware description

[ENG] 1. [DKSF 53/203.1 IU] Introduction

What is this document about?

This document describes a functionality of the built-in firmware DKSF 53/203.1.X for the devices:

- [NetPing 2 IP PDU GSM3G 203R15](#);
- [NetPing 2 IP PDU ETH 53R14](#).

Firmware of the DKSF 53/203.1.X version support the next control interfaces:

- HTTP (web interface);
- SNMP v1;
- URL encoded HTTP commands;
- SMS commands (for the model NetPing 2 IP PDU GSM3G 203R15 with a built-in GSM modem).

A description of settings and the operation order with these management modes are provided in this document.

A description of physical characteristics of a device, its controls, and indicators, as well as the connection order of a device, and external sensors are provided in the user guide for the devices NetPing 2 IP PDU GSM3G 203R15, NetPing 2 IP PDU ETH 53R14.

The user guide can be studied via the link: [\[ENG\] NetPing 2 IP PDU ETH 53R14 & NetPing 2 IP PDU GSM3G 203R15, User guide](#)

The information, contained in this document, can be changed by a manufacturer without a prior notice. Although every effort was made to make the information in this document accurate and without errors, a manufacturer is not liable for their possible presence and for the consequences that may result from the errors herein. A manufacturer is not liable if supplied equipment, software and this user guide does not correspond to expectations of a user and his/her opinion about where and how to use all the above. All copyrights on supplied devices, described in this User Guide, as well as firmware and software of devices and this User Guide belong to NetPing global Ltd. Copying, replication and translation of this user guide to other languages are not allowed without a prior written permission of a rightholder. Copying, replication, changing, disassembling of provided software **are not allowed without a prior written permission of a rightholder**. For the part of software that is provided in source codes, there is a separate license agreement, which defines an order of its use and modification. Other trademarks used in this description belong to corresponding rightholders.

Developer and manufacturer:

NetPing east Co Ltd.

NetPing server room environmental monitoring solutions and IP power distribution units.

[ENG] 2. [DKSF 53/203.1 IU] Getting Basic Information About the Device

NetPing server room environmental monitoring solutions and IP power distribution units.

[ENG] 2.1. [DKSF 53/203.1 IU] Default Username and Password

A default username and password for connecting to a device web interface are as follows:

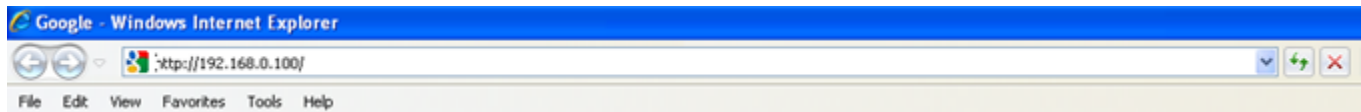
- Login: visor
- Password: ping

This information is written on the bottom side of a device:

[ENG] 2.2. [DKSF 53/203.1 IU] Connection To the Device Web-Interface With Default Authorization

Web Interface

A web interface is used to manage a device. To connect to a device and configure its parameters, there is a need to enter an IP address of a device in the address bar of a browser:



When working in Internet Explorer, web interface operation speed can be decreased. It is recommended to use the latest version of Google Chrome.

Use a command ping from a command line to check a connection with a device:

```
ping 192.168.0.100
```

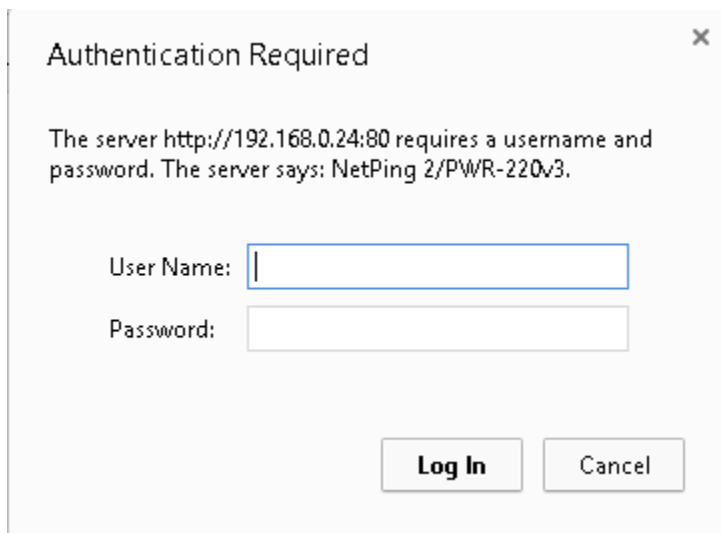
IP address of a computer should be in the same subnetwork with an IP address of a device! For example, if a device has an IP address 192.168.0.100, then a computer should have address 192.168.0.11 mask 255.255.255.0

AUTHENTICATION

While connecting, a device will request authentication by entering login and password.

On default:

- Address for connecting to a device: <http://192.168.0.100/>;
- User: visor;
- Password: ping



Make sure that a device responds to ping 192.168.0.100 after the first device activation as well as after resetting its parameters.

It is prohibited to use non-ASCII characters ("№", "@", "«" and others, as well as any Cyrillic character) in a username and a password. Otherwise, authentication issues may arise in a web interface in browsers except Google Chrome.

[ENG] 2.3. [DKSF 53/203.1 IU] How to Find Out a Default IP Address and a MAC Address of a Device?

A default IP address is specified on the bottom of a device:

A default IP address of a device is 192.168.0.100

A MAC address of a device can be found on the home page of a device web interface:

The screenshot shows the home page of a device web interface. At the top, there is a green navigation bar with the word "Home" on the left and "2PW" on the right. Below the navigation bar, there is a menu of links: HOME | SETUP | E-MAIL | RELAYS | WATCHDOG | SCHEDULE 1 | SCHEDULE 2 | SMS | TEMPERATURE | HUMIDITY | DISCRETE IO | IR COMMANDS | LOGIC | FIRMWARE | LOG. The main content area is titled "DEVICE IDENTIFICATION" and contains a table of device information. The table has two columns: the left column lists the device attributes, and the right column shows their values. The MAC Address is highlighted with a red box. Below the table, there is a section titled "NETWORK SETTINGS" with another table showing IP Address, Netmask, and Gateway. At the bottom right of the network settings section, there is a "Reboot" button.

DEVICE IDENTIFICATION	
Hostname	2PWR-220-v13-GSMSMS
Location	Moscow Office
Contact	
Serial Number	002 972 885
MAC Address	00:a2:d5:5c:2d:00
GSM Modem IMEI	861715031757587
Device Model	2 IP PDU GSM3G 203R15
Firmware Version	v203.1.2.E-1
Hardware Version	1.10
Uptime	2d 17h 22m 35s

NETWORK SETTINGS	
IP Address	192.168.2.52
Netmask	255.255.255.0
Gateway	192.168.2.2

Reboot

where:

MAC Address – is a unique physical address of a device in the Ethernet network.

[ENG] 2.4. [DKSF 53/203.1 IU] I Need to Know the Firmware and Hardware Versions and a Serial Number of a Device

The information about the firmware and hardware versions and a serial number of a device can be found on the home page of a device web interface:



[HOME](#) | [SETUP](#) | [E-MAIL](#) | [RELAYS](#) | [WATCHDOG](#) | [SCHEDULE 1](#) | [SCHEDULE 2](#) | [SMS](#)
[TEMPERATURE](#) | [HUMIDITY](#) | [DISCRETE IO](#) | [IR COMMANDS](#) | [LOGIC](#) | [FIRMWARE](#) | [LOG](#)

DEVICE IDENTIFICATION

Hostname	2PWR-220-v13-GSMSMS
Location	Moscow Office
Contact	
Serial Number	002 972 885
MAC Address	00:a2:d5:5c:2d:00
GSM Modem IMEI	861715031757587
Device Model	2 IP PDU GSM3G 203R15
Firmware Version	v203.1.2.E-1
Hardware Version	1.10
Uptime	2d 17h 22m 35s

NETWORK SETTINGS

IP Address	192.168.2.52
Netmask	255.255.255.0
Gateway	192.168.2.2

where:

Firmware Version – is a version of a built-in firmware installed in this device.

The number of a built-in hardware version looks like DKSF PPP.VV.SS.C-M (for example, DKSF 203.1.1.A-4), where:

- DKSF – is a specific prefix for all firmware of the company Alentis Electronics Ltd.;
- PPP – is a number of a model of a device for which the firmware is designed

Project numbers usually but not necessarily coincide with the project number of the hardware platform of a device.

- VV – is a version number. Versions are numbered starting from 1. A version number is changed to the next one if in the process of development functionality is expanded or changed significantly;
- SS – is a subversion number. A subversion number is changed from any firmware update, including fixing errors, updating internal modules, and optimization;
- C – is a character that shows a type of the software version. R or A is a stable Russian software version, B is a version for testing or the first version of new firmware. E is a stable English firmware version;
- M – is a numeric suffix that marks the modification (variant) of a model of a device for which the firmware is designed.

Hardware Version – is a version of a printing board and/or configuration of the device.

Serial Number – is a unique identification number of a device. It must coincide with a number on a sticker on the device. A serial number of a device cannot be changed.

[ENG] 2.5. [DKSF 53/203.1 IU] How to See The Uptime?

The uptime of a device can be found on the home page of a device web interface:

The screenshot shows a web interface with a green header bar containing the word "Home". Below the header is a navigation menu with links: HOME, SETUP, E-MAIL, RELAYS, WATCHDOG, SCHEDULE 1, SCHEDULE 2, SMS, TEMPERATURE, HUMIDITY, DISCRETE IO, IR COMMANDS, LOGIC, FIRMWARE, and LOG. The main content area is divided into two sections: "DEVICE IDENTIFICATION" and "NETWORK SETTINGS".

DEVICE IDENTIFICATION

Hostname	2PWR-220-v13-GSMSMS
Location	Moscow Office
Contact	
Serial Number	002 972 885
MAC Address	00:a2:d5:5c:2d:00
GSM Modem IMEI	861715031757587
Device Model	2 IP PDU GSM3G 203R15
Firmware Version	v203.1.2.E-1
Hardware Version	1.10
Uptime	2d 17h 22m 35s

NETWORK SETTINGS

IP Address	192.168.2.52
Netmask	255.255.255.0
Gateway	192.168.2.2

where:

Uptime – is the time of equipment operation from the moment of the last activation or rebooting of a device.

[ENG] 2.6. [DKSF 53/203.1 IU] Where to Find the Hostname, Location and Contact of a Device?

The name of a device, location, and contact information can be found on the home page of a device web interface:

The screenshot shows a web interface with a green header containing a 'Home' button. Below the header is a navigation menu with links: HOME, SETUP, E-MAIL, RELAYS, WATCHDOG, SCHEDULE 1, SCHEDULE 2, SMS, TEMPERATURE, HUMIDITY, DISCRETE IO, IR COMMANDS, LOGIC, FIRMWARE, and LOG. The 'HOME' link is highlighted with a red box. Below the navigation menu is a section titled 'DEVICE IDENTIFICATION' containing a table of device information. The first three rows of this table (Hostname, Location, Contact) are highlighted with a red box. Below this is a section titled 'NETWORK SETTINGS' containing a table of network information. A 'Reboot' button is located at the bottom right of the network settings section.

DEVICE IDENTIFICATION	
Hostname	2PWR-220-v13-GSMSMS
Location	Moscow Office
Contact	
Serial Number	002 972 885
MAC Address	00:a2:d5:5c:2d:00
GSM Modem IMEI	861715031757587
Device Model	2 IP PDU GSM3G 203R15
Firmware Version	v203.1.2.E-1
Hardware Version	1.10
Uptime	2d 17h 22m 35s

NETWORK SETTINGS	
IP Address	192.168.2.52
Netmask	255.255.255.0
Gateway	192.168.2.2

where:

Hostname – is a domain name of a device. It allows distinguishing between several NetPing devices of the same type by their hostnames. A hostname is displayed on the homepage and in the heading of a web interface, it is sent in notifications and available via SNMP.

Location – a description of the installation place of a NetPing device. It is displayed on the homepage and in the heading of a web interface, and is available via SNMP.

Contact – is the contact data (usually an e-mail) of an administrator. It is displayed on the home page and is available via SNMP.

All three variables can be set (changed) on the web-interface SETUP page.

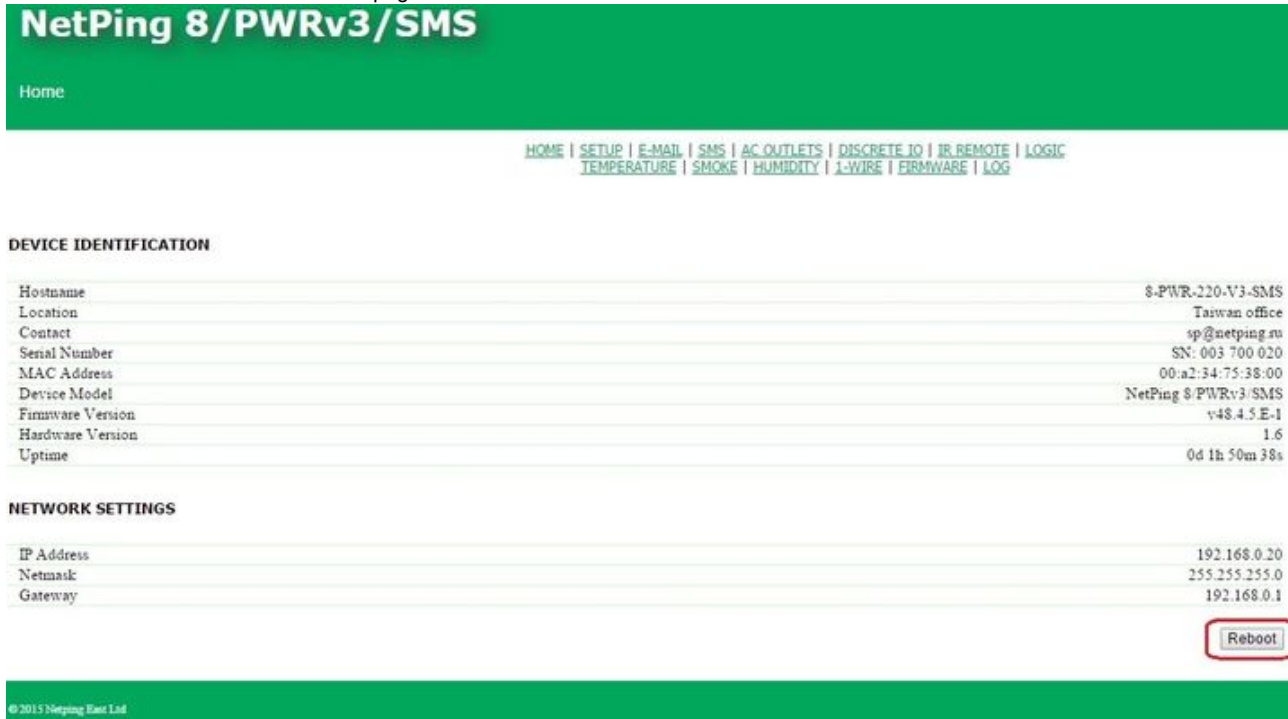
For more advanced users, the basic access option is using the SNMP v1 protocol by reading the corresponding OID using the command Get:

OID	Имя	Тип	Доступ	Описание
.1.3.6.1.2.1.1.5.0	sysName	DISPLAYSTRING (SIZE (0..255))	READ/WRITE	Domain name of a device.
.1.3.6.1.2.1.1.6.0	sysLocation	DISPLAYSTRING (SIZE (0..255))	READ/WRITE	Location of the device
.1.3.6.1.2.1.1.4.0	sysContact	DISPLAYSTRING (SIZE (0..255))	READ/WRITE	Contact

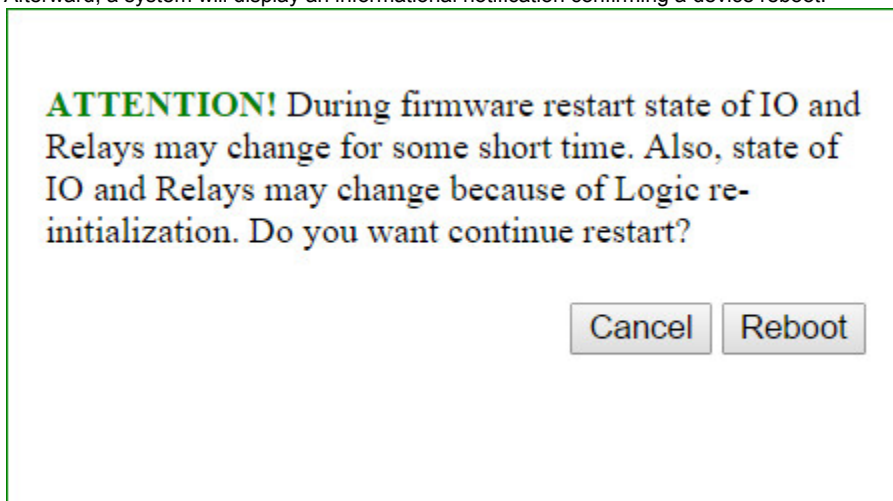
[ENG] 2.7. [DKSF 53/203.1 IU] How to Reboot the Device

A NetPing device can be rebooted in two ways:

1. Click the button «Reboot» at the home page of a web interface of a device.



Afterward, a system will display an informational notification confirming a device reboot.



After clicking the button «Continue» CPU LEDs near Ethernet ports will blink and a device will reboot. Its uptime will be reset to 0d 0h 0m 0s.

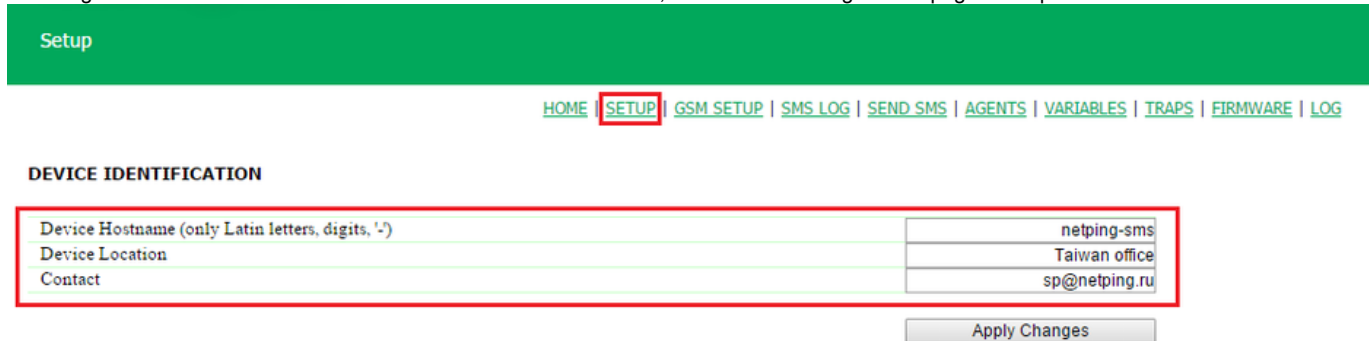
2. Use an SNMP v1 protocol by specifying OID values using the command Set:

OID	Name	Type	Access	Description
.1.3.6.1.4.1.25728.911.1.0	npSoftReboot	Integer	READ/WRITE	Software reboot of a device when writing the value«1» (an analog for rebooting a device through a web interface)
.1.3.6.1.4.1.25728.911.3.0	npForceReboot	Integer	READ/WRITE	A forced immediate reboot of a device when writing the value «1» (a processor is reset the same as when turning a power supply on)

[ENG] 3. [DKSF 53/203.1 IU] Basic Configuration

[ENG] 3.1. [DKSF 53/203.1 IU] How to Configure a Hostname, a Location and Contact?

To configure a name and a location of a device as well as its contacts, there is a need to go to the page «Setup» of a web interface of a device:



In the section «Device Identification» it is possible to configure:

Device Hostname – is a domain name of a device. It allows distinguishing among several NetPing devices of the same type according to a name. A name is represented on the homepage and in the heading of a web interface, in an e-mail notification in the field «From:», in other notifications and available via SNMP – sysName. On default: empty line

Device Location – is a description of a place of installation of a Netping device. It is displayed on the home page and in the heading of a web interface, is available via SNMP – sysLocation. On default: empty row

Contact – is the administrator's contacts (usually, an e-mail). This information is available via SNMP – sysContact. On default: empty row

After configuring all necessary parameters, click the button «Apply changes».

In addition, it is possible to configure these parameters using an SNMP v1 protocol by setting OID values using the command Set:

OID	Name	Type	Access	Description
.1.3.6.1.2.1.1.5.0	sysName	DISPLAYSTRING (SIZE (0..255))	READ/WRITE	A domain name of a device.
.1.3.6.1.2.1.1.6.0	sysLocation	DISPLAYSTRING (SIZE (0..255))	READ/WRITE	A location of a device.
.1.3.6.1.2.1.1.4.0	sysContact	DISPLAYSTRING (SIZE (0..255))	READ/WRITE	Contacts.

[ENG] 3.2. [DKSF 53/203.1 IU] Where to Change Settings of a Network Interface?

To change network interface parameters, such as an HTTP port, a server and an SNMP agent, there is a need to go to the page «Setup» of a device web interface:

NETWORK SETTINGS

IP Address	192.168.0.29
Netmask	255.255.255.0
Gateway	192.168.0.1
DNS Server	8.8.8.8
Embedded HTTP Server Port	80
SNMP Agent Port	161

Apply Changes

In the section «Network Settings» it is possible to configure:

IP Address – is a field for setting up or changing an IP address of a device. On default: 192.168.0.100

Netmask – is a field for setting up or changing a subnet mask, where the devices are. On default: 255.255.255.0

Gateway – is a field for setting up or changing an IP address of a gateway. The value 0.0.0.0 means a gateway is not specified and packages for other subnetworks will not be sent by a device. On default: 0.0.0.0

A device will send any outgoing packages to a gateway address. Therefore, there is a need to specify an IP address of a gateway properly if there is a need to work with a device from other subnetworks.

DNS server – is a DNS server address. The value 0.0.0.0 means a DNS server is not specified, and a device will not send DNS requests. On default: 0.0.0.0

A DNS server must use a recursive method. Cyrillic domain names are not supported. Domain names longer than 62 symbols are not supported either.

A DNS module works independently from other firmware modules. A DNS module saves responses from a DNS server into a DNS-cache of a device. Other firmware modules use this cache to determine an IP address, where a package needs to be sent. A request is not sent directly before sending a DNS package. If there is no correspondent entry in a DNS-cache in the moment of sending a package, then an outgoing package is discarded. A DNS cache size coincides with the number of hostnames (IP addresses) specified in the settings of a device.

Domain names are resolved and renewed in the next cases:

- Firmware start and restart;
- Saving settings through a web interface (if a domain name is changed);
- A life timeout of a DNS record, specified in the response from a DNS server

When a lifetime of a cache entry is expired, the entry is not removed from a cache. A device updates an expired entry from time to time. Other firmware modules use an outdated information until the entry is successfully updated.

If a DNS server does not respond, a device repeats its request three times. Afterwards, it repeats the request periodically nearly once a minute if there is still no response from a server. The requests are repeated when there is no server response and if there is an error in a server response, including the error «no such hostname».

HTTP Server Port – is a field for configuring a port number, through which an embedded web interface operates. When connecting through a web browser to a device with a port number different from 80, there is a need to indicate the URL of the following appearance: <http://x.x.x.x:nn>, where x.x.x.x – is an IP address of a device, nn – is a port number, specified in settings of a device. On default: 80

SNMP Agent Port – is a field for configuring a UDP port number, which an SNMP agent listens to. On default: 161

After setting all necessary parameters, click the button «Apply changes».

[ENG] 3.3. [DKSF 53/203.1 IU] Changing a Username and a Password

To change a username and a password, there is a need to go to the web page «Setup» of a web interface of a device:

ACCESS RESTRICTIONS

Username	visor29
Password	*****
SNMP Community for Read	ping29
SNMP Community for Write	ping29
IP Filter (access granted for this subnet)	0.0.0.0
IP Filter Netmask (0.0.0.0 - disable filter)	0.0.0.0

In the section «Access Restrictions» it is possible to configure the following:

Username – is a field for setting up or changing a username when accessing a device through a web interface. Latin letters and numbers are used. Its maximum size is 16 symbols. On default: visor

Password – is a field for setting up or changing a user's password when accessing a device through a web interface. Latin letters and numbers are used. Its maximum size is 16 symbols. On default: ping

After setting up all necessary parameters, click the button «Apply changes».

[ENG] 3.4. [DKSF 53/203.1 IU] How to Set Community for SNMP?

To configure Community, there is a need to go to the web page «Setup» of a device web interface:

ACCESS RESTRICTIONS

Username	visor29
Password	*****
SNMP Community for Read	ping29
SNMP Community for Write	ping29
IP Filter (access granted for this subnet)	0.0.0.0
IP Filter Netmask (0.0.0.0 - disable filter)	0.0.0.0

In the section «Access Restrictions» it is possible to configure:

Community for Read – is a field for setting up or changing Community for read parameters of a device when accessing a device via an SNMP protocol. Its maximum size is 16 characters. On default: SWITCH

Community for Write – is a field for setting up or changing Community for write parameters of a device when accessing a device via an SNMP protocol. Its maximum size is 16 characters. On default: SWITCH

After setting up all necessary parameters, click the button «Apply changes».

[ENG] 3.5. [DKSF 53/203.1 IU] How to Restrict the Access to a Device?

To restrict the access to a device via HTTP and SNMP protocols, there is a need to go to the web page «Setup» of a device web interface:

ACCESS RESTRICTIONS

Username	visor29
Password	*****
SNMP Community for Read	ping29
SNMP Community for Write	ping29
IP Filter (access granted for this subnet)	0.0.0.0
IP Filter Netmask (0.0.0.0 - disable filter)	0.0.0.0

In the section «Access Restrictions» it is possible to configure the following:

IP Filter – is a field determining an IP address or a subnetwork, from which it is allowed to configure and view parameters of a device via HTTP, SNMP protocols. A subnet mask specified in the field «IP Filter Netmask» is applied to the address indicated in the field «IP filter». As a result, there is a subnetwork, from which is it allowed to control a device. To allow the access for one IP address, there is a need to specify a mask 255.255.255 in the field «IP Filter Netmask». On default: 0.0.0.0

IP Filter Netmask – is a field for setting up or changing an IP filter netmask to access a device. Its value 0.0.0.0 means an access filter is disabled. On default: 0.0.0.0

A device will still respond to an ICMP request (ping) from any address even when access filters are specified.

After setting up all necessary parameters, click the button «Apply changes».

[ENG] 3.6. [DKSF 53/203.1 IU] There Is a Need to Send SNMP Trap Notifications. How to Configure This?

IP addresses for sending SNMP TRAP notifications are configured at the page «Setup» of a device web interface. This group of settings allows configuring up to two addresses, where SNMP TRAP notifications will be sent via an SNMP protocol.

Events for these notifications to be sent are specified at other pages of a device web interface.

SNMP TRAP

SNMP Trap Destination #1	<input type="text"/>
SNMP Trap Destination #2	<input type="text"/>
<input type="button" value="Apply Changes"/>	

In the section «SNMP TRAP» it is possible to configure the following:

SNMP Trap Destination #1 - is a field for configuring or changing the first address, where SNMP TRAP notifications will be sent. It is possible to specify an IP address or a domain name. An empty field means SNMP TRAP notifications will not be sent. On default: address is not specified

SNMP Trap Destination #2 – is a field for configuring or changing the second address, where SNMP TRAP notifications will be sent. It is possible to indicate an IP address or a domain name. An empty field means SNMP TRAP notifications will not be sent. On default: address is not specified

After configuring all necessary settings, click the button «Apply changes».

[ENG] 3.7. [DKSF 53/203.1 IU] How to Set the Clock?

SETTING THE CLOCK MANUALLY

To set the clock manually, there is a need to go to the page «Setup» of a device web interface:

EMBEDDED CLOCK (RTC)

Current Date and Time	22.05.2015 04:04:24
New Date and Time (14 digits, format DDMMYYYYHHmmSS without spaces, 24h)	<input type="text"/>
<input type="button" value="Set Clock"/>	

In the section «Embedded Clock (RTC)» it is possible to view and set up the following:

Current Date and Time – is a field for viewing a current time.

New Date and Time (14 digits, format DDMMYYYYHHmmSS without spaces) – is a field for setting a clock manually.

After the clock is set, click the button «Set Clock».

TIME SYNCHRONIZATION WITH EXTERNAL NTP SERVERS

There is a need to go to the page «Setup» of a device web interface to set up a synchronization with external NTP servers.

This group of parameters allows setting NTP servers (time servers) for a device. A device will set and adjust its internal clock according to them. It is possible to set up to two NTP servers. If the first NTP server is unavailable, a device will try to synchronize time using the second NTP server. It is possible to check a correctness of a configuration by generating an event and viewing its time log, in a log file at the page «Log».

NTP SETUP

NTP Server #1	<input type="text" value="ntp.netping.ru"/>
NTP Server #2	<input type="text"/>
Timezone (-12..12)	<input type="text" value="8"/>
Daylight Saving Time (DST)	<input type="checkbox"/>
<input type="button" value="Apply Changes"/>	

In the section «NTP Setup» it is possible to configure the following:

NTP Server #1 – is a field to view or change the address of the first NTP server. It is allowed to indicate an IP address or a domain name. An empty field disables the feature of a time synchronization. On default: address is not specified

NTP Server #2 – is a field to view or change the address of the second NTP server. It is allowed to indicate an IP address or a domain name. An empty field disables the feature of a time synchronization. On default: address is not specified

Timezone – is a field to view or change a local timezone. A positive or a negative number of offset hours from UTC is set. On default: 3

You are welcome to use freely available NTP servers on the Internet as NTP servers, for example, the ones from <http://www.pool.ntp.org/en/>, particularly:

- 0.europe.pool.ntp.org
- 1.europe.pool.ntp.org
- 2.europe.pool.ntp.org
- 3.europe.pool.ntp.org

A device must have a properly configured gateway and an Internet connection via an NTP protocol to use NTP servers from the Internet.

After setting up all necessary parameters, click the button «Apply changes».

[ENG] 3.8. [DKSF 53/203.1 IU] How to Increase the Time of Stand-Alone Operation of a Device?

The information in this section relates to a [NetPing 2 IP PDU GSM3G 203R15](#) with a built-in ionizer. Estimated stand-alone operation time from the ionistor is ~ 6 min (without connected sensors, with sending notifications about the loss of main power).

To increase a stand-alone time of a device, there is a need to go to the page «SETUP» of the device web interface.

In the area «Powersaving» check a checkbox «Disable Ethernet if powered from Battery (after notifications have been sent)»:

POWERSAVING

Disable Ethernet if powered from Battery (after notifications have been sent)

Apply changes

When a main 220 V power supply is cut off, the NetPing device will send a corresponding notification and disable its Ethernet ports. When a power supply is restored, Ethernet ports will be turned on again.

[ENG] 3.9. [DKSF 53/203.1 IU] I Want to Configure SYSLOG. How to Do This?

Transfer of notifications to the SYSLOG server is configured at the page «Setup» of a device web interface.

Events, according to which these notifications will be sent, are set at other pages of a device web interface.

SYSLOG

Syslog Address	
Syslog Facility	16
Syslog Severity	5

Apply Changes

In the section «SYSLOG» it is possible to configure the following:

SysLog Address – is an IP address of the SYSLOG server. A log file of a device will be duplicated completely on the SYSLOG server.

Syslog Facility – is a type of programs, for which logging is maintained.

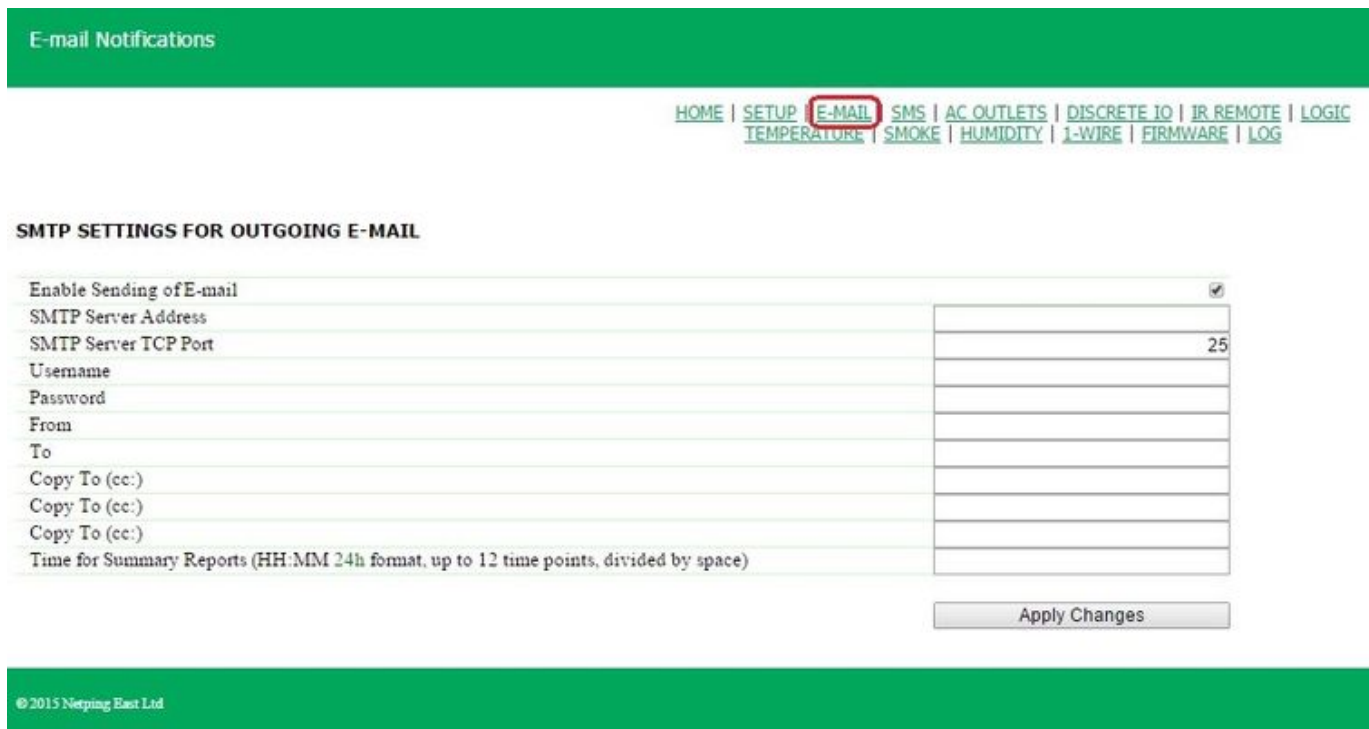
Syslog Severity – indicates the urgency of notifications (from emergency to debugging).

After setting up all necessary parameters, click the button «Apply changes».

[ENG] 3.10. [DKSF 53/203.1 IU] How to Get Notifications and Reports via Email?

To configure the module for sending e-mail notifications and reports about a status, there is a need to go to the page «E-MAIL» of a web interface. The equipment sends notifications using an SMTP protocol.

Events, on which e-mail notifications will be sent, are set at other pages of a device web interface.



where:

Enable Sending of E-mail – when unchecking the checkbox a device will not send e-mail notifications. This was designed, first of all, to handle maintenance in a server room, as well as the one of the equipment. On default: checkbox is not checked

SMTP Server Address – is an email address for an incoming mail. On default: empty line

SMTP Server TCP Port – is an email server port, which works via an SMTP protocol. On default: 25

Username – is a username of an SMTP server. On default: empty line

Password – is a password of an SMTP server user. On default: empty line

From – a sender's address. On default: empty line

To – a destination address for e-mail notifications. On default: empty line

Copy To (cc:) – addresses of secondary recipients for e-mail notifications, to whom a copy is sent. On default: empty line

Time for Summary Reports (HH:MM 24h format, up to 12 time points, divided by space) – is a time when reports on a status of sensors will be sent via e-mail. On default: empty line

After setting the parameters, click the button «Apply changes».

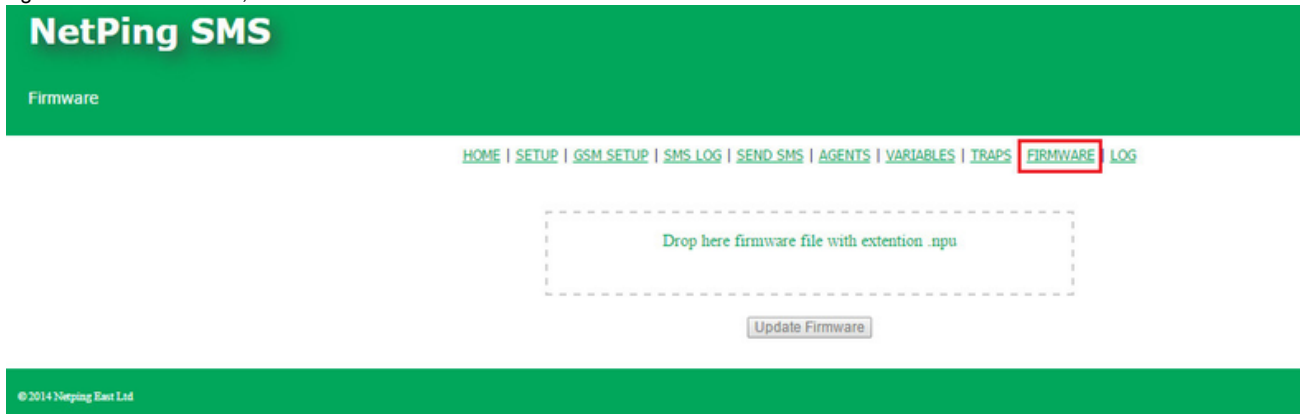
It is possible to add displaying of a device name in an e-mail notification. The way how to do this is described on the page: "[ENG] 3.1. [DKSF 53/203.1 IU] How to Configure a Hostname, a Location and Contact?"

The device can work only with the email servers that support an SMTP protocol and authentication methods AUTH PLAIN and AUTH LOGIN, as well as the method with no authentication method! At the same time, a device cannot support SSL, TLS or another encoding!

[ENG] 3.11. [DKSF 53/203.1 IU] How to Update Firmware in the Device?

There is a need to do the following to update an embedded firmware version:

1. Download an up-to-date firmware from the official website of the company (section «Downloads»): <http://www.netpingdevice.com>.
2. Go to the page «Firmware» of a device web interface. You can easily update the firmware of a device from this page without using any specific software. To do that, you will need a browser supporting HTML 5 API. Google Chrome or Internet Explorer of the 9th version and higher are recommended;



3. Drag a firmware file to the indicated page area;
4. Wait until a firmware file is copied to a device
5. Click the button «Update Firmware»

Wait for the message on a successful operation completion:



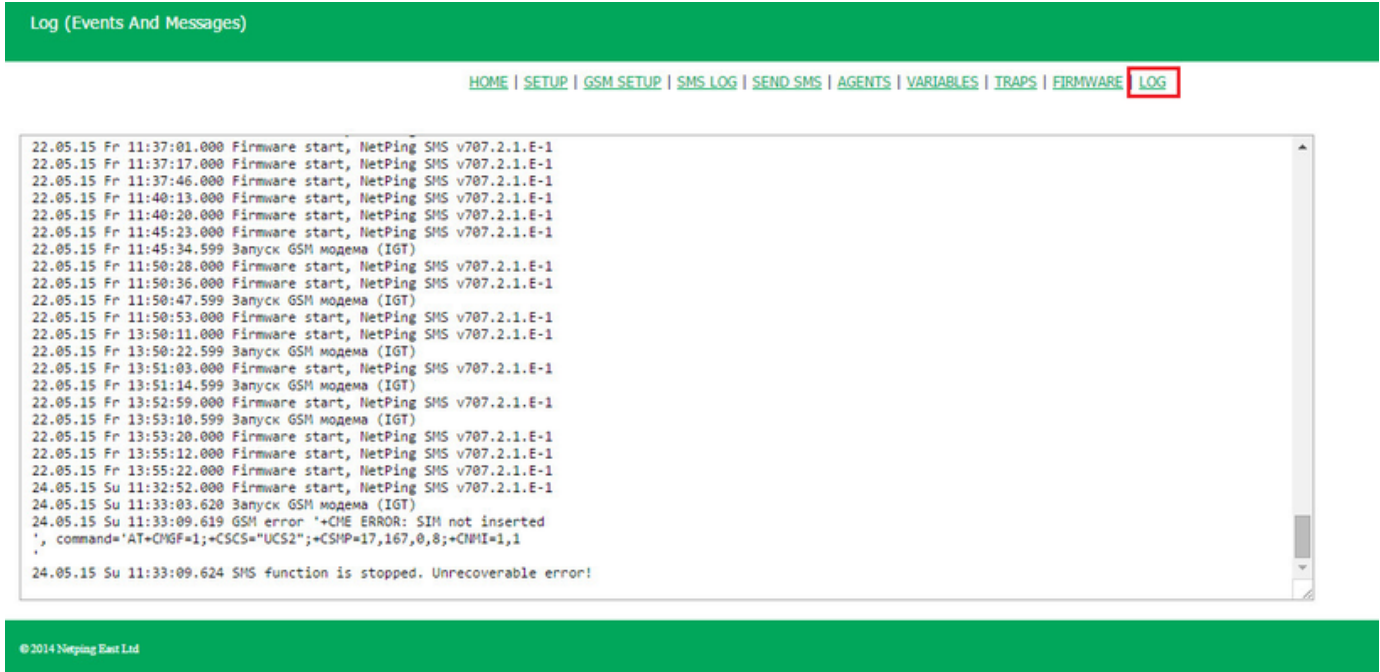
Retry if an updating process was interrupted. A web interface (pages «Home», «Setup», «Firmware») will be available even if the firmware was not successfully updated.

Certain system settings may be changed after updating. Do not forget to check the most important operation parameters.

[ENG] 3.12. [DKSF 53/203.1 IU] System Log of the Device

The page «Log» of a device web interface represents a device operation. All events are saved in the log in a chronological order. All notifications of the log are duplicated via SYSLOG protocol if an IP address of SYSLOG server is specified in the settings of a device.

The first time tag in the log is 01.01.70 Mon 00:00: 00.UTC. If an IP address of an NTP server is specified in the settings, a device will try to receive a precise time. If successful, a device will synchronize its internal clock with a precise time. After a time is synchronized in the log, two entries appear that represent a time jump when setting the clock correctly. If the time received when synchronising with an NTP server is different from the time of an internal clock for less than 5 min, its clock is not reset. The pace of internal clock is changed in the way for an internal time to coincide with a precise time received from an NTP server after a while. Therefore, there is no time jumps in the events list in a log, which makes analysing it easier.



GENERAL EVENTS

Operation Start (Reboot) – is written into the log when a device is turned on.

Clock Reset – is written into the log if a received time from an NTP server is different from an internal time for more than 5 min. The entry is displayed in two rows: the first row has a time tag before resetting an internal clock, and the second one is made just after a reset is made.

EVENTS FROM TEMPERATURE SENSORS

Thermo chan.N "XXXX":normal YYC – is recorded into the log if a mode of sending SNMP TRAP notifications from temperature sensors is configured, and a temperature on a temperature sensor is within the limits set by a user. YY – is a current temperature on a temperature sensor.

Thermo chan.N "XXXX": above normal YYC – is recorded into the log if a mode of sending SNMP TRAP notifications from temperature sensors is configured and a temperature on a temperature sensor is above the upper threshold, set by a user. N – is a number of a temperature sensor. XXXX – is a description of a temperature sensor, specified by a user at the page of a web interface. YY – is a current temperature on a temperature sensor.

Thermo chan.N "XXXX": below normal YYC – is recorded into the log if a mode of sending SNMP TRAP notifications from temperature sensors is configured and a temperature on a temperature sensor is below the lower threshold, specified by a user. N – is a number of a temperature sensor. XXXX – is a description of a temperature sensor, specified by a user at the page of a web interface. YY – is a current temperature on a temperature sensor.

Thermo chan.N "XXXX": failure – is recorded into the log if a mode of sending SNMP TRAP notifications from temperature sensors is configured and a temperature sensor does not respond (is not connected). N – is a number of a temperature sensor. XXXX – is a description of a temperature sensor, specified by a user at the page of a web interface. When a sensor operation is restored, a notification about a status of a temperature range is sent (see above).

EVENTS FROM IO LINES

Input/output: line N "XXXX": 0->1 – is recorded into the log if a mode of sending SNMP TRAP notifications from IO lines is configured, and an IO line has switched from the status «0» to the status «1». N – is a number of an IO line. XXXX – is a description of an IO line, specified by a user at

the page of a web interface.

Input/output: line N "XXXX": 1->0 – is recorded into the log if a mode of sending SNMP TRAP notifications from IO lines is configured and an IO line has switched from the status «1» to the status «0». N – is a number of an IO line. XXXX – is a description of an IO line, specified by a user at the page of a web interface.

EVENTS FROM THE «WATCHDOG» MODULE

Watchdog: resetting chan.N "XXXX". A (IPA) YYYY, B (IPB) YYYY, C (IPC) YYYY – is recorded into the log when the Watchdog is triggered. N – is a number of a power management channel. XXXX – is a description of a power management channel, specified by a user at the page of a web interface. IPA, IPB, IPC – are IP addresses, specified in the settings of the «Watchdog».YYYY – is a status of corresponding requested IP address. It may be: responds, silent, ignores.

Watchdog: chan.N "XXXX". - a limit of repeated resets is reached (Y). Resets are paused. – is recorded into the log if a limit of consequent resets of a connected device is reached in the operating mode «Watchdog». N – is a number of a power management channel. XXXX - is a description of a power management channel, specified by a user at the page of a web interface.Y – is an amount of consequent resets of a connected device that has been performed.

Watchdog: chan.N "XXXX" reset. - a response is received. Resetting pause is over.

SYSLOG SUPPORT

All notifications in the log are duplicated by sending notifications via SYSLOG protocol if addresses of SYSLOG server are specified in the settings of a device at the page «Setup» of a web interface.

SYSLOG server is convenient to use for centralized collecting of notifications about events that take place at numerous devices and computers, operating in the network, particularly about the events at Netping devices.

[ENG] 3.13. [DKSF 53/203.1 IU] Backup and Restoration of a Device Configuration

Saving the Configuration

To save a backup copy of a set configuration of a device into a binary file, there is a need to go to the page «SETUP» of a device web interface. In the section «BACKUP, RESTORE, CLONE ALL SETTINGS», click the button «Download»:

BACKUP, RESTORE, CLONE ALL SETTINGS



Afterward, a file with settings with the extension .bin will appear on the local PC disk, for example, USS-001-125-ServerRoom-1_setup.bin (before the underscore in the name of a file, a name of a device is substituted that is configured on the page «SETUP» of a web interface).

Restoring a Configuration

To download a backup copy of a set configuration from a binary file to a device, there is a need to go to the page «SETUP» of a device web interface. In the section «BACKUP, RESTORE, CLONE ALL SETTINGS» click the button «Upload»:

BACKUP, RESTORE, CLONE ALL SETTINGS



After that, you should select the necessary .bin file to load the configuration. A successful uploading is followed by the displaying the status «Uploading of settings completed successfully» with the following rebooting of a device:



When uploading a binary file, the next parameters are not restored:

- Hostname;
- IP address;
- Subnet mask;
- Gateway;
- HTTP server port

These parameters are necessary to be configured manually.

Before uploading a configuration into EEPROM, the identity of «donor» and «acceptor» versions is checked. If a «donor» version is not suitable, uploading is not performed, and the error message is displayed: «The image of settings is not compatible!».

[ENG] 3.14. [DKSF 53/203.1 IU] How to Disable Notifications at Initialization After Firmware (Re)Start?

To disable notifications at the initialization of a device after firmware start or restart, there is a need to go to the page «SETUP» of a device web interface and check a checkbox «Skip notifications just after Firmware (re)start» in the section «NOTIFICATIONS» and click the button «Apply changes»:

NOTIFICATIONS

Skip notifications just after Firmware (re)start

Apply Changes

Activation of this setting stops sending notifications about the status of IO lines during firmware start. when the status of a line changes from indefinite to 0 or 1.

NetPing server room environmental monitoring solutions and IP power distribution units.

[ENG] 4. [DKSF 53/203.1 IU] Working with Temperature Sensors

[ENG] 4.1. [DKSF 53/203.1 IU] What Temperature Sensors are Supported By this Device?

A device supports a simultaneous connection of [T811 temperature sensors](#). Readings of sensors automatically appear in a web interface 15 seconds after a connection. Temperature values and temperature sensor statuses are updated automatically nearly four times a minute with no need to reload a web page manually.

A device does not support 1-Wire temperature sensors.

It is possible to plug up to 8 temperature sensors to a device.

[ENG] 4.2. [DKSF 53/203.1 IU] Where to See The Current Temperature

To see a current temperature of temperature sensors, there is a need to go to the page «TEMPERATURE» of a device web interface:

Thermo Sensors B-PWR-220-V3-SMS
Taiwan office

[HOME](#) | [SETUP](#) | [E-MAIL](#) | [SMS](#) | [AC OUTLETS](#) | [DISCRETE IO](#) | [IS REMOTE](#) | [LOGIC](#)
[TEMPERATURE](#) | [SMOKE](#) | [HUMIDITY](#) | [1-WIRE](#) | [FIRMWARE](#) | [LOG](#)

Parameter	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 5	Sensor 6	Sensor 7	Sensor 8
Memo (up to 16 chars)								
Unique Id of 1W sensor								
Current Temperature, °C	0	0	0	0	0	0	0	0
Status	sensor fault	sensor fault	sensor fault	sensor fault	sensor fault	sensor fault	sensor fault	sensor fault
Top Margin of Safe Range, °C	60	60	60	60	60	60	60	60
Bottom Margin of Safe Range, °C	10	10	10	10	10	10	10	10
Notification	Setup	Setup	Setup	Setup	Setup	Setup	Setup	Setup

© 2013 Netping East Ltd

Temperature values and sensor statuses are updated automatically not less than four times a minute with no need to reload a page manually.

Current Temperature, °C – displays a current temperature of a sensor in degrees of Celcius. A temperature value is automatically updated from time to time without reloading a web page.

Status – displays a current status of a temperature sensor. Possible values are:

- Failure – a temperature sensor is not connected or does not respond;
- Normal – a temperature sensor responds, and a temperature value is within the limit of a specified range for this temperature sensor;
- Above normal – a temperature sensor responds, and a temperature value is above a specified range for this temperature sensor;
- Below normal – a temperature sensor responds, and a temperature value is below a specified range for this temperature sensor.

[ENG] 4.3. [DKSF 53/203.1 IU] Is It Possible to Set a Description for Temperature Sensors?

To set a description for temperature sensors, there is a need to go to the page «TEMPERATURE» of a device web interface:

Thermo Sensors 8-PWR-220-V3-SMS
Taiwan office

[HOME](#) | [SETUP](#) | [E-MAIL](#) | [SMS](#) | [AC-OUTLETS](#) | [DISCRETE IO](#) | [IR-REMOTE](#) | [LOGIC](#)
TEMPERATURE | [SMOKE](#) | [HUMIDITY](#) | [I-WISE](#) | [FIRMWARE](#) | [LOG](#)

Parameter	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 5	Sensor 6	Sensor 7	Sensor 8
Memo (up to 16 chars)								
Unique Id of 1W sensor								
Current Temperature, °C	0	0	0	0	0	0	0	0
Status	sensor fault	sensor fault	sensor fault	sensor fault	sensor fault	sensor fault	sensor fault	sensor fault
Top Margin of Safe Range, °C	60	60	60	60	60	60	60	60
Bottom Margin of Safe Range, °C	10	10	10	10	10	10	10	10
Notification	Setup	Setup	Setup	Setup	Setup	Setup	Setup	Setup

© 2015 Netping East Ltd

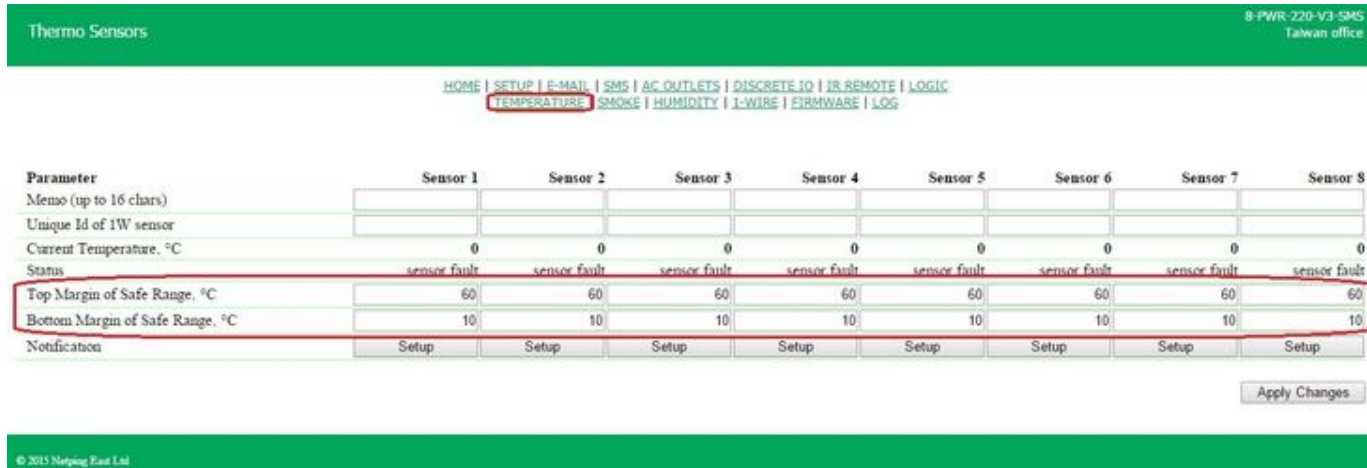
A description for temperature sensors is set in the field «Memo».

Memo – is a field for setting a brief description of a temperature sensor. A memo is used in SYSLOG and log notifications, and is also included into SNMP TRAP, SMS, e-mail notifications, email reports about a status of sensors. Its maximum size is 16 characters. On default: empty line

After changing the settings, there is a need to save the parameters by clicking the button «Apply changes».

[ENG] 4.4. [DKSF 53/203.1 IU] Configuring Upper and Bottom Thresholds of a Norm of a Temperature Sensor

To configure a top and bottom margin of a safe range for a temperature sensor, there is a need to go to the page «TEMPERATURE» of a device web interface:



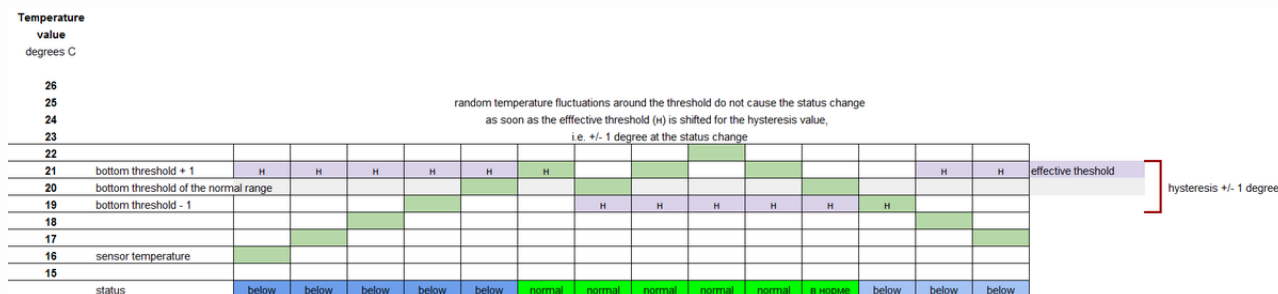
where:

Top Margin of Safe Range, °C – is a field for setting a top margin of a temperature range for each temperature sensor. A temperature range is used to specify conditions for generating SNMP TRAP and Syslog notifications as well as e-mail and SMS notifications (in a device with an embedded GSM modem). On default: 60

Bottom Margin of Safe Range, °C – is a field for setting a bottom margin of a temperature range for each temperature sensor. A temperature range is used to specify conditions for generating SNMP TRAP and Syslog notifications as well as e-mail and SMS notifications (in devices with an embedded GSM modem). On default: 10

To prevent frequent triggering of a top and bottom margins, a switching hysteresis of 1°C is used.

A hysteresis sets a «corridor» around a specified temperature, within the limits of which top and bottom margins of a safe range do not respond to temperature oscillations. This feature allows to avoid frequent random notifications from a temperature sensor caused by natural spontaneous oscillations of a temperature measured by a sensor. If a current status of a temperature sensor is «above normal», then a threshold for switching a status is a specified temperature minus a hysteresis value. And vice versa, if the current status is «below normal», then a threshold for switching is a specified temperature plus a hysteresis value. As soon as a temperature increases or decreases reaching a threshold value (taking a hysteresis into account), thus leaving margins of a «corridor», a temperature status is changed. Operation logic of hysteresis is explained in the picture below.



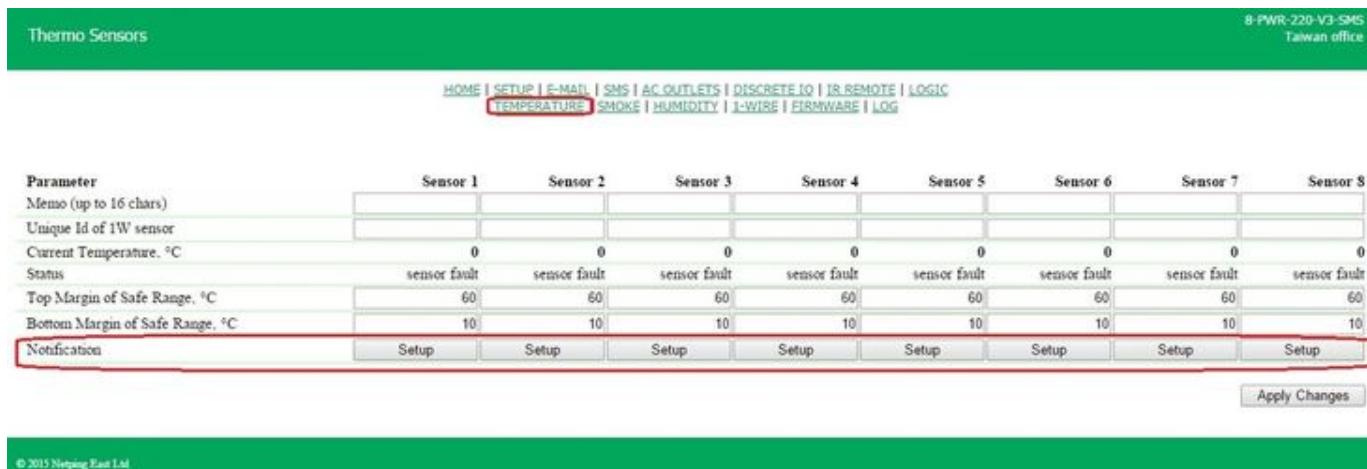
Status – displays a current status of a temperature sensor. Its possible values are:

- Failure – a temperature sensor is not connected or does not respond;
- Normal – a temperature sensor responds and a temperature value is within the margins of a specified range for this temperature sensor;
- Above normal - a temperature sensor responds, and a temperature value is above a specified range for this temperature sensor;
- Below normal - a temperature sensor responds, and a temperature value is below a specified range for this temperature sensor

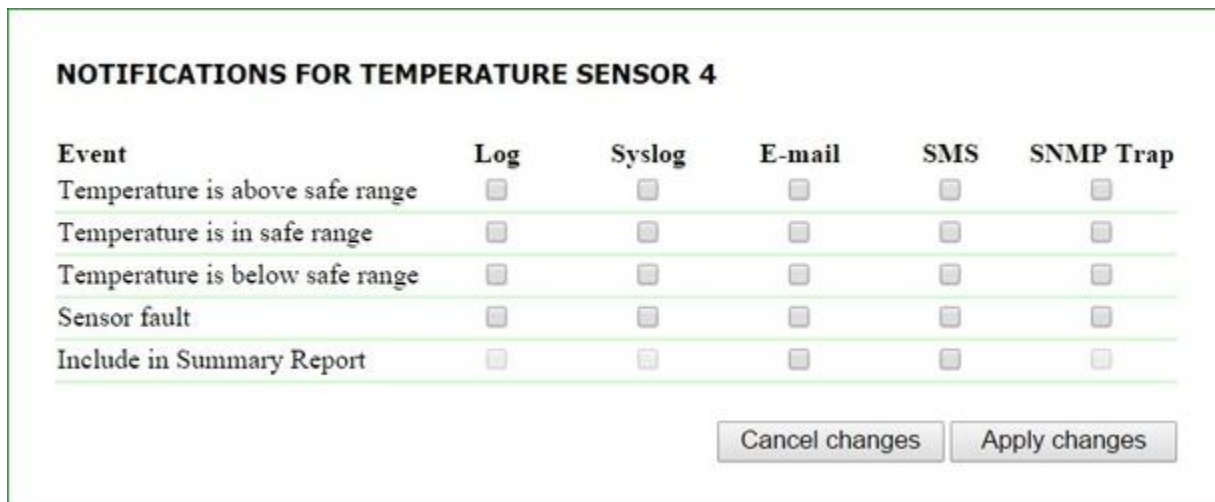
After changing the settings, there is a need to save the parameters by clicking the button «Apply changes».

[ENG] 4.5. [DKSF 53/203.1 IU] I Want to Configure Sending Notifications When a Status of a Temperature Sensor Is Changed. How to Do This?

Sending notifications when a status of a temperature sensor is changed, is configured at the page «TEMPERATURE» of a device web interface:



When clicking the button «Configure» a menu of settings is displayed for sending notifications of the following types: Log, Syslog, E-mail, SMS (in devices with an embedded GSM modem) and SNMP Trap:



where:

Temperature is above safe range – is a checkbox, when checked a device will send notifications if a current temperature is above a top margin of a safe range for this temperature sensor. On default: checkbox is not checked

Temperature is in safe range – is a checkbox, when checked a device will send notifications if a current temperature is back to margins of a safe range for this sensor. On default: checkbox is not checked

Temperature is below safe range – is a checkbox, when checked a device will send notifications if a current temperature is below a bottom margin of a safe range for this temperature sensor. On default: checkbox is not checked

Sensor fault – is a checkbox, when checked a device will send notification if a connection with a sensor is lost. On default: checkbox is not checked

Include in Summary Report – is a checkbox when checked reports about a sensor status will be sent via e-mail and/or SMS (in a device will an embedded GSM modem). Time of sending reports is indicated at the pages «SMS» and «E-MAIL». On default: checkbox is not checked

After setting all necessary parameters, click the button «Apply changes».

[ENG] 5. [DKSF 53/203.1 IU] Working with a Humidity Sensor

[ENG] 5.1. [DKSF 53/203.1 IU] What Humidity Sensor is Supported By the Device?

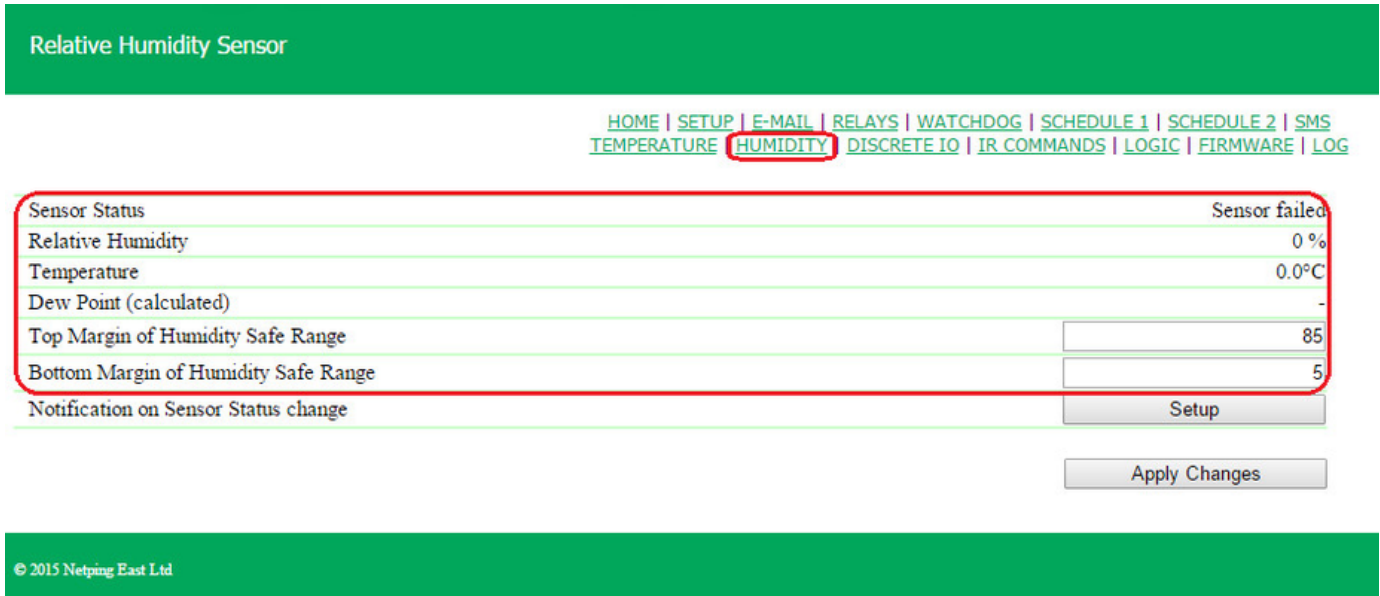
A device supports connecting only [WS-2 humidity sensor](#). Readings of a humidity sensor automatically appear at the page «HUMIDITY» of a web interface several seconds after manual plugging of a sensor into a device. Values of a relative humidity, a temperature, a dew point and a status of a humidity sensor are updated automatically with no need to reload a web page manually.

A device does not support a 1-Wire humidity sensor.

It is possible to plug only one humidity sensor to a device.

[ENG] 5.2. [DKSF 53/203.1 IU] Browsing Readings and Configuring Parameters of a Humidity Sensor in a Web Interface

To browse readings and configurations of parameters of a humidity sensor, there is a need to go to the page «HUMIDITY» of a device web interface:



where:

Sensor Status – determines a status of a sensor in a current moment of time. Possible variants: «Sensor does not work», «within a safe range», «below a safe range», «above a safe range»;

Relative Humidity – are readings of a sensor, which determines a relative humidity, in %;

Temperature – are readings of a temperature sensor, built into a humidity sensor, in °C;

Dew Point – is a dew point, calculated from readings of a humidity sensor and a temperature, in °C;

Top Margin of Humidity Safe Range – is a humidity value, when rising above it, a sensor switches to the status «above a safe range». Hysteresis is ± 1 percent point. On default: 85

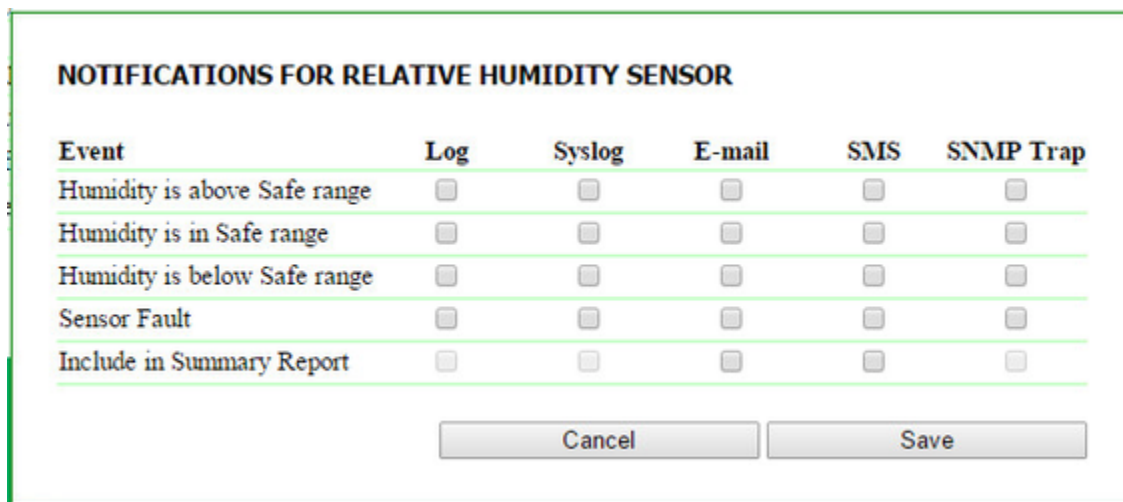
Bottom Margin of Humidity Safe Range– is a humidity value, when falling below it, a device switches to the status «below a safe range». Hysteresis is ± 1 percent point. On default: 5

[ENG] 5.3. [DKSF 53/203.1 IU] I Want to Configure Sending Notifications When Changing a Status of a Humidity Sensor. How to Do This?

Sending notifications when a humidity sensor status is changed is configured at the page «HUMIDITY» of a device web interface:



When clicking the button «Setup» a menu of settings for sending notifications of the next types appears: Log, Syslog, E-mail, SMS (in devices with an embedded GSM modem) and SNMP Trap:



where:

Humidity is above Safe range – is a checkbox, when checked a device will send notifications if a relative humidity is above a top margin of a safe range for a humidity sensor. On default: checkbox is not checked

Humidity is in Safe range – is a checkbox, when checked a device will send notifications if a relative humidity is within margins of a safe range for a humidity sensor. On default: checkbox is not checked

Humidity is below Safe range – is a checkbox, when checked a device will send notifications if a relative humidity is below a bottom margin of a safe range for a humidity sensor. On default: checkbox is not checked

Sensor Fault – is a checkbox, when checked a device will send notifications if a connection with a sensor is lost. On default: checkbox is not checked

Include in Summary Report – is a checkbox, when checked reports about a humidity sensor status will be sent via e-mail and/or SMS (in a device with an embedded GSM modem). A time for sending reports is set at the pages «SMS» and «E-MAIL». On default: checkbox is not checked

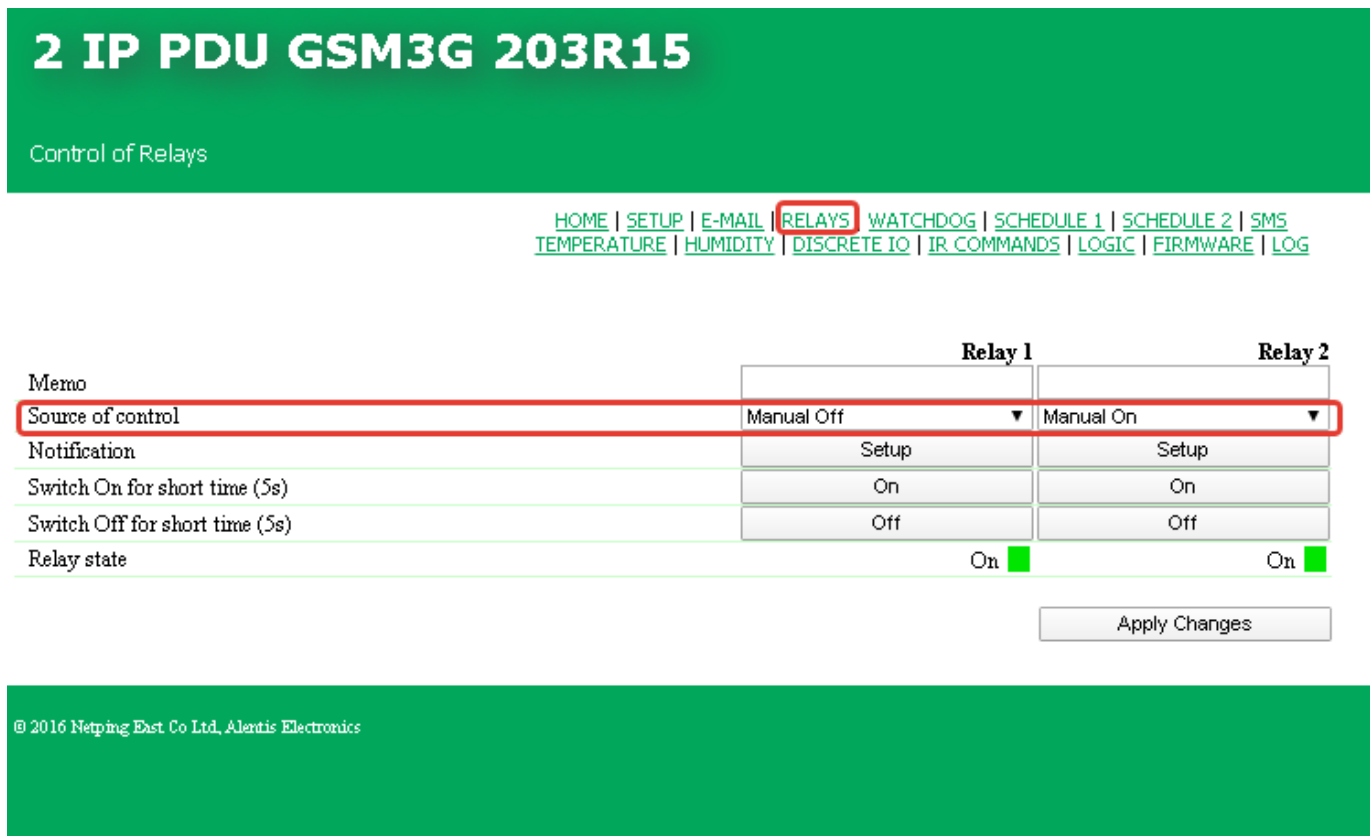
After configuring all necessary settings, click the button «Apply changes».

[ENG] 6. [DKSF 53/203.1 IU] Working With a Built-In Relay

[ENG] 6.1 [DKSF 53/203.1 IU] Configuring Relay Control Modes

Outlets are powered through a normally closed relay - it means that in the event of a device power supply failure - the power will be supplied to the output sockets.

A control mode of a built-in relay is configured on the page «RELAYS» of a device's web interface:



This page allows to manage an output channel (relay) of a device power supply. A channel can be switched on/switched off for a short time, switched to the mode «Manual Off», «Manual On», «Schedule», «Watchdog», «Schedule+Watchdog», «Logic», «Schedule+Logic».

Memo – is a field for viewing or changing a brief description of a relay. A value in this field will be used in SYSLOG notifications and records on the page «LOG», included into SMS, e-mail notifications and e-mail reports about a status of sensors. Its maximum size is 30 characters. On default: empty line

Source of control – is a relay status. It is possible to set the following statuses:

- Manual Off – a relay is constantly switched off;
- Manual On – a relay is constantly switched on;
- Watchdog - a relay is controlled by the module «Watchdog»;
- Schedule - a relay is controlled by the module «Schedule»;
- Schedule+Watchdog – a relay is controlled by both modules «Watchdog» and «Schedule» simultaneously. The module «Schedule» switches a relay on and off. The module «Watchdog» checks the operability of a connected device depending on the module «Schedule». If the module «Watchdog» finds failure in the work of device (there is no response to an ICMP request), a relay switches its status to an opposite one for a short time depending on the configuration of the "Schedule" module;
- Logic – a relay is used as a logic output
- Schedule+Logic - a relay is controlled by the module «Schedule», and the module «Logic» simultaneously. When the module «Schedule» is switched on (i.e. a schedule is in the status «On»), a relay status is determined according to specified conditions in the module «Logic». When the module «Schedule» is switched off (i.e. a schedule is in the status «Off»), a relay is switched off and the conditions specified in the module «Logic» are ignored.

Switch On for short time (5s) – after clicking the button «Switch On for short time» a corresponding relay will be switched on for 5 seconds.

Switch Off for short time (5s) – after clicking the button «Switch Off for short time» a corresponding relay will be switched off for 5 seconds.

Relay state – is a current status of a relay. Possible variants are: «Off», «On». The relay status is updated automatically after the status changes

NetPing server room environmental monitoring solutions and IP power distribution units.

with no need to update the entire page.

After setting up all necessary parameters, click the button «Apply changes».

[ENG] 6.2 [DKSF 53/203.1 IU] I Want to Configure Sending Notifications about the Events on the Triggering of a Relay. How to Do This?

To configure sending notifications for events on triggering an embedded relay, there is a need to go to the page «RELAYS» of a device web interface:

Control of Relays

[HOME](#) | [SETUP](#) | [E-MAIL](#) | **[RELAYS](#)** | [WATCHDOG](#) | [SCHEDULE 1](#) | [SCHEDULE 2](#) | [SMS](#)
[TEMPERATURE](#) | [HUMIDITY](#) | [DISCRETE IO](#) | [IR COMMANDS](#) | [LOGIC](#) | [FIRMWARE](#) | [LOG](#)

	Relay 1	Relay 2
Memo (up to 30 chars)	PWR1	PWR2
Source of control	Schedule	Manual Off
Notification	Setup	Setup
Switch On for short time (5s)	On	On
Switch Off for short time (5s)	Off	Off
Relay state	Вкл <input checked="" type="checkbox"/>	Выкл <input type="checkbox"/>

© 2015 Netping East Ltd

When clicking the button «Setup» a menu of settings for sending notifications on the next directions appears: Log, Syslog, E-mail, SMS (in devices with an embedded GSM modem):

NOTIFICATIONS FOR RELAY 1

Event	Log	Syslog	E-mail	SMS	SNMP Trap
Switching On/Off	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Include in Summary Report	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

where:

Switching On/Off – is a checkbox, when checked notifications on changing a relay status will be sent.

Include in Summary Report – is a checkbox, when checked reports on a status of an embedded relay will be sent via e-mail and/or SMS.

Time for sending reports is set at the pages «SMS» and «E-MAIL».

After setting all necessary parameters, click the button «Save changes».

NetPing server room environmental monitoring solutions and IP power distribution units.

[ENG] 7. [DKSF 53/203.1 IU] Working with Channels of Discrete Input-Output

[ENG] 7.1. [DKSF 53/203.1 IU] Is It Possible to Set a Description for an Input-Output Line?

To set a description for an input-output line, there is a need to go to the page «DISCRETE IO» of a device web interface:

Discrete Input-Output

[HOME](#) | [SETUP](#) | [E-MAIL](#) | [SMS](#) | [AC OUTLETS](#) | DISCRETE IO | [IR REMOTE](#) | [LOGIC](#)
[TEMPERATURE](#) | [SMOKE](#) | [HUMIDITY](#) | [I-WIRE](#) | [FIRMWARE](#) | [LOG](#)

Parameter	IO 1	IO 2	IO 3	IO 4
Memo	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
IO Mode	Input ▼	Input ▼	Input ▼	Input ▼
Filter out short noise pulses (20-10 000ms)	500	500	500	500
Input Logic Level	1 <input checked="" type="checkbox"/>	1 <input checked="" type="checkbox"/>	1 <input checked="" type="checkbox"/>	1 <input checked="" type="checkbox"/>
Level Explained	-	-	-	-
Notification on Logic Level change	<input type="button" value="Setup"/>	<input type="button" value="Setup"/>	<input type="button" value="Setup"/>	<input type="button" value="Setup"/>
Output Logic Level				
Logic 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Logic 0	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Single Pulse Generation				
Pulse Duration (100-25 500ms, step 100ms)	1000	1000	1000	1000
Start Single Pulse	<input type="button" value="Pulse"/>	<input type="button" value="Pulse"/>	<input type="button" value="Pulse"/>	<input type="button" value="Pulse"/>

© 2015 Netping East Ltd

Descriptions for IO lines are set in the field «Memo».

Memo – is a field for setting a brief description of an IO line. A memo is used in the SYSLOG and log notifications and is included into SNMP TRAP, SMS, e-mail notifications, e-mail reports about a status of sensors. Its maximum size is 30 characters. On default: empty line

[ENG] 7.2. [DKSF 53/203.1 IU] Configuring the Operation Mode of an Input-Output Line

To set an operation mode of an IO line, there is a need to go to the page «DISCRETE IO» of a device web interface:

Parameter	IO 1	IO 2	IO 3	IO 4
Memo				
IO Mode	Input	Input	Input	Input
Filter out short noise pulses (20-10 000ms)	500	500	500	500
Input Logic Level	1 <input checked="" type="checkbox"/>	1 <input checked="" type="checkbox"/>	1 <input checked="" type="checkbox"/>	1 <input checked="" type="checkbox"/>
Level Explained	-	-	-	-
Notification on Logic Level change	Setup	Setup	Setup	Setup
Output Logic Level				
Logic 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Logic 0	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Single Pulse Generation				
Pulse Duration (100-25 500ms, step 100ms)	1000	1000	1000	1000
Start Single Pulse	Pulse	Pulse	Pulse	Pulse

Apply Changes

© 2015 Netping East Ltd

where:

IO Mode – allows to set an IO line into the mode «input», «output» and «logic output». On default: input

At the page «DISCRETE IO», current settings of discrete input-output channels are displayed. In the mode «input», «output» and «logic output» it is possible to configure automatic sending of SNMP TRAP, SYSLOG, e-mail, and SMS notifications, notifications into a log file as well as periodic reports about a status. In the mode «output», it is possible to set a logic level at a line through the web, SNMP and HTTP API interfaces. In the mode «logic output», a logic level at a line is set by a logic module.

[ENG] 7.3. [DKSF 53/203.1 IU] How to Determine a Current Logic Level on an Input-Output Line?

To define a current logic level of an IO line, there is a need to go to the page «DISCRETE IO» of a device web interface:

Discrete Input-Output

[HOME](#) | [SETUP](#) | [E-MAIL](#) | [SMS](#) | [AC OUTLETS](#) | **DISCRETE IO** | [IR REMOTE](#) | [LOGIC](#)
[TEMPERATURE](#) | [SMOKE](#) | [HUMIDITY](#) | [I-WIRE](#) | [FIRMWARE](#) | [LOG](#)

Parameter	IO 1	IO 2	IO 3	IO 4
Memo				
IO Mode	Input	Input	Input	Input
Filter out short noise pulses (20-10 000ms)	500	500	500	500
Input Logic Level	1	1	1	1
Level Explained	-	-	-	-
Notification on Logic Level change	Setup	Setup	Setup	Setup
Output Logic Level				
Logic 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Logic 0	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Single Pulse Generation				
Pulse Duration (100-25 500ms, step 100ms)	1000	1000	1000	1000
Start Single Pulse	Pulse	Pulse	Pulse	Pulse

Apply Changes

© 2015 Netping East Ltd

where:

Input Logic Level – is a field displaying a current logic level at an IO line. It is updated automatically when a logic level of a line is changed with no need to reload an entire page.

[ENG] 7.4. [DKSF 53/203.1 IU] How to Manage an Input-Output Line in the «Output» Mode?

Attention! On the Input / Output lines (I1-I4) of the device in the “Output” mode of 12 V, up to 200 mA (not a typical “discrete output”). If they are not used correctly, the connected equipment may fail.

To manage an IO line, there is a need to go to the page «DISCRETE IO» of a device web interface:

1. Set an IO line to the «Output» operation mode;
2. Check a checkbox «Output Logic Level» at «Logic 1» or «Logic 0»;
3. Save parameters by clicking the button «Apply Changes»

Input Logic Level – is a field displaying a current logic level of an IO line. It is updated automatically when changing a logic level of a line with no need to reload an entire page;

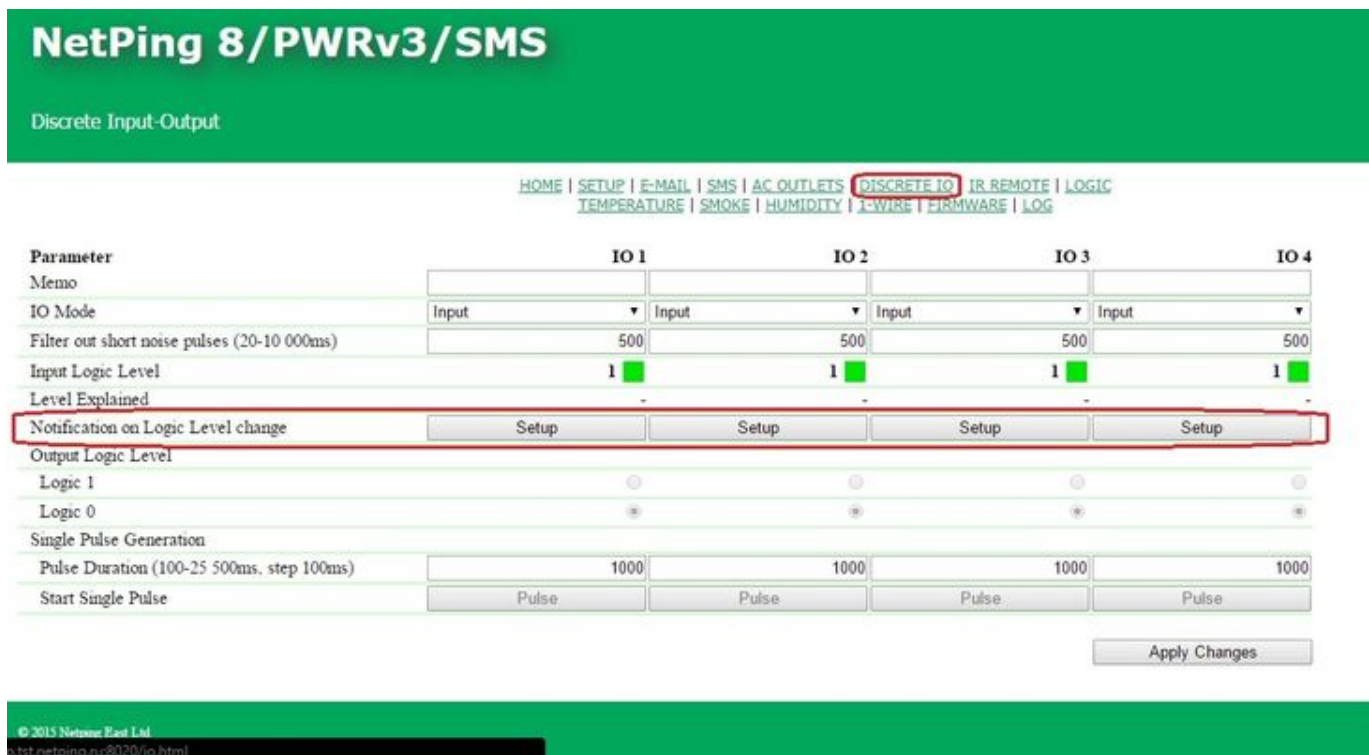
IO Mode is a parameter which allows to set the IO line in the modes: "Input", "Output" and "Output Logic Level". On default: Input

Output Logic Level – is a parameter of a logic level of a line, which works as an «Output». A logic status «1» means having voltage at an output line (a scheme with an open collector). A logic status «0» means having 0V at an IO line. On default: logic «0»;

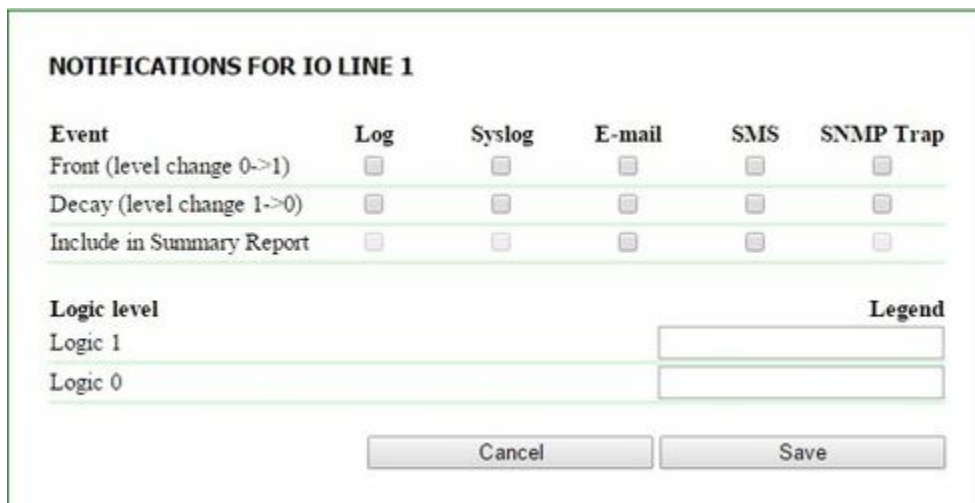
Single Pulse Generation – when clicking the button «pulse», an IO line, which works as an output, will be inverted for a specified period of time. A pulse duration is set in the field «Pulse Duration (100-25500ms, step 100ms)». If a line is set to «Input», then the button for issuing a pulse will not be active.

[ENG] 7.5. [DKSF 53/203.1 IU] I Want to Configure Sending Notifications When a Logic Level of an Input-Output Line Is Changed. How to Do This?

Notifications on changing a logic level of an IO line are configured at the page «DISCRETE IO» of a device web interface:



When clicking the button «Setup» a menu of settings appears for configuring sending notifications of the next types: Log, Syslog, E-mail, SMS (in devices with an embedded GSM modem) and SNMP Trap, as well as encoding numeric values of a current level of an IO line:



where:

Front (level change 0->1) – is a checkbox, when checked a device will send notifications if a status of an IO line is changed from «0» to «1». On default: checkbox is not checked

Decay (level change 1->0) – is a checkbox, when checked a device will send notifications if a status of an IO line is changed from «1» to «0». On default: checkbox is not checked

Include in Summary Report – is a checkbox, when checked a device will send reports about a status of an IO line via e-mail and/or SMS. Time for sending reports is configured at the pages «SMS» and «E-MAIL». On default: checkbox is not checked

Logic level Logic 1 – a clear and understandable description of a numeric value of a level «Logic 1» of an IO line is set. This decoding will be

NetPing server room environmental monitoring solutions and IP power distribution units.

displayed in the field «Legend» at the page «INPUT-OUTPUT» of a device web interface and will be added to SNMP TRAP notifications.

Logic level Logic 0 – a clear and understandable description of a numeric value of a level «Logic 0» of an IO line is set. This decoding will be displayed in the field «Legend» at the page «INPUT-OUTPUT» of a device web interface and will be added to SNMP TRAP notifications.

After setting all necessary parameters click the button «Apply changes».

[ENG] 7.6. [DKSF 53/203.1 IU] What Is the Filter of Short Noise Pulses in the Settings of an Input-Output Line Needed For

Filter out short noise pulses (20-10 000 ms) - is a field for setting a period of time, during which an IO line configured as an «input», must stay stable to register its status. Hence, this parameter allows to filter out short noise signals or bouncing of mechanical contacts. On default: 500ms

A filter for short noise pulses is configured at the page «DISCRETE IO» of a device web interface:

Discrete Input-Output

[HOME](#) | [SETUP](#) | [E-MAIL](#) | [SMS](#) | [AC OUTLETS](#) | **[DISCRETE IO](#)** | [IR REMOTE](#) | [LOGIC](#)
[TEMPERATURE](#) | [SMOKE](#) | [HUMIDITY](#) | [1-WIRE](#) | [FIRMWARE](#) | [LOG](#)

Parameter	IO 1	IO 2	IO 3	IO 4
Memo				
IO Mode	Input	Input	Input	Input
Filter out short noise pulses (20-10 000ms)	500	500	500	500
Input Logic Level	1 <input checked="" type="checkbox"/>	1 <input checked="" type="checkbox"/>	1 <input checked="" type="checkbox"/>	1 <input checked="" type="checkbox"/>
Level Explained	-	-	-	-
Notification on Logic Level change	Setup	Setup	Setup	Setup
Output Logic Level				
Logic 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Logic 0	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Single Pulse Generation				
Pulse Duration (100-25 500ms, step 100ms)	1000	1000	1000	1000
Start Single Pulse	Pulse	Pulse	Pulse	Pulse

© 2015 Netping East Ltd

NetPing server room environmental monitoring solutions and IP power distribution units.

[ENG] 8. [DKSF 53/203.1 IU] Working with SMS Notifications and a Built-in GSM Modem

[ENG] 8.1. [DKSF 53/203.1 IU] How to Find Out a Balance on the SIM Card?

This information is related to the device NetPing 2 IP PDU GSM3G 203R15 with a built-in GSM modem.

There is a need to go to the page «SMS» of a device web interface to know a balance on the SIM card installed into the SIM slot of a device:

GSM setup for SMS notification and control

[HOME](#) | [SETUP](#) | [RELAYS](#) | [WATCHDOG](#) | [SCHEDULE 1](#) | [SCHEDULE 2](#) | **[SMS](#)** | [TEMPERATURE](#) | [DISCRETE IO](#) | [IR COMMANDS](#) | [LOGIC](#) | [FIRMWARE](#) | [LOG](#)

GSM SETUP

Destination Phone Number for SMS, Primary	+7913000000
Destination Phone Number for SMS, Aux 1	
Destination Phone Number for SMS, Aux 2	
Destination Phone Number for SMS, Aux 3	
USSD Command for request of GSM account status	*100#
Log communication with GSM modem (troubleshooting)	<input checked="" type="checkbox"/>

GSM STATUS

Registration in GSM Network	-
GSM Signal Strength	-

GSM ACCOUNT

Reply to the USSD Command of status request	-
---	---

In the section «GSM SETUP», specify a USSD code of a corresponding service provider to request a balance.

USSD Command for request of GSM account status – is a command sending a USSD to request a balance.

In the section «GSM ACCOUNT», click the button «Send USSD Request». In a few seconds, the information about a balance on the SIM card will appear in the field «Reply to the USSD Command of status request».

[ENG] 8.2. [DKSF 53/203.1 IU] I Need to Specify a Number for Sending SMS Notifications. How to Do This?

The information in this section is related to the NetPing 2 IP PDU GSM3G 203R15 device with a built-in GSM modem.

To specify one or several phone numbers for sending SMS notifications, there is a need to go to the page «SMS» of a device web interface:

GSM setup for SMS notification and control

[HOME](#) | [SETUP](#) | [E-MAIL](#) | [RELAYS](#) | [WATCHDOG](#) | [SCHEDULE 1](#) | [SCHEDULE 2](#) | [SMS](#)
[TEMPERATURE](#) | [HUMIDITY](#) | [DISCRETE IO](#) | [IR COMMANDS](#) | [LOGIC](#) | [FIRMWARE](#) | [LOG](#)

GSM SETUP

Destination Phone Number for SMS, Primary	<input type="text"/>
Destination Phone Number for SMS, Aux 1	<input type="text"/>
Destination Phone Number for SMS, Aux 2	<input type="text"/>
Destination Phone Number for SMS, Aux 3	<input type="text"/>
USSD Command for request of GSM account status	<input type="text"/>
Log communication with GSM modem (troubleshooting)	<input checked="" type="checkbox"/>

In the section «GSM SETUP», there is a need to specify a primary destination phone number and auxiliary numbers if necessary for sending SMS notifications.

Destination Phone Number for SMS – is indicated in the next format Country Code - Operator's Code - Phone Number.

To save phone numbers, click the button «Apply changes».

[ENG] 8.3. [DKSF 53/203.1 IU] How to Enable an Extended Log for a GSM Modem?

The information in this section is related to the [NetPing 2 IP PDU GSM3G 203R15](#) d device with a built-in GSM modem.

Detailed logging for a GSM modem is enabled at the page «GSM SETUP» of a device web interface:

NetPing SMS

GSM Setup for SMS Notification and Control

[HOME](#) | [SETUP](#) | **[GSM SETUP](#)** | [SMS LOG](#) | [SEND SMS](#) | [AGENTS](#) | [VARIABLES](#) | [TRAPS](#) | [FIRMWARE](#) | [LOG](#)

GSM SETUP

Destination Phone Number for SMS, Main	+79136038283
Destination Phone Number for SMS, Aux 1	+79059420394
Destination Phone Number for SMS, Aux 2	
Destination Phone Number for SMS, Aux 3	
USSD Command (Request of GSM Account Status etc.)	*100#
Log Communication with GSM modem (Troubleshooting)	<input checked="" type="checkbox"/>

[Apply Changes](#)

In the section «GSM SETUP», there is a need to check a checkbox «Log Communication with GSM modem (Troubleshooting)».

Log Communication with GSM modem (Troubleshooting) – is a function enabling representing the information on all AT commands at the page «LOG», which are exchanged between a CPU and a GSM modem. This feature is necessary to troubleshoot possible issues of a GSM modem operation.

To save the setting, click the button «Apply changes».

[ENG] 8.4. [DKSF 53/203.1 IU] Checking the GSM Signal Strength

The information in this section is related to the NetPing 2 IP PDU GSM3G 203R15 device with a built-in GSM modem.

To check the registration, a GSM signal strength and a balance at the SIM-card of a device, go to the page «GSM SETUP» of a device web interface:

GSM SETUP	
Destination Phone Number for SMS, Main	+79136038283
Destination Phone Number for SMS, Aux 1	+79059420394
Destination Phone Number for SMS, Aux 2	
Destination Phone Number for SMS, Aux 3	
USSD Command (Request of GSM Account Status etc.)	*100#
Log Communication with GSM modem (Troubleshooting)	<input type="checkbox"/>

Apply Changes

Click the button «Request status» in the section «GSM STATUS». In a few seconds the field «Registration in GSM network» will have an information about a cellular network, where the SIM-card is registered. In the field «GSM Signal Strength», the information about a signal status in percents will appear.

[ENG] 8.5. [DKSF 53/203.1 IU] Receiving SMS-Notifications about Previously Specified Events

The information in this section is related to the [NetPing 2 IP PDU GSM3G 203R15](#) device with a built-in GSM modem.

To configure SMS notifications about previously specified events, there is a need to go to the page «SMS» of a device web interface:

EVENTS FOR SMS NOTIFICATIONS

Ethernet Link Status change	<input type="checkbox"/>
Watchdog Reset	<input type="checkbox"/>
Switch to Reserve Battery/Regular AC Power	<input type="checkbox"/>
Pinger Event (Loss or Restoration of communication)	<input type="checkbox"/>

Apply Changes

In the section «Events for SMS Notifications», it is possible to configure:

Switch to Reserve Battery/Regular AC Power – when a device switches to a backup power, an SMS notification will be sent the destination numbers, specified in the section «GSM Setup» on the page «SMS» of a device web interface. Information applies to the device [NetPing 2 IP PDU GSM3G 203R15](#) with a built-in battery.

Ethernet Link Status change – when a specified event takes place, an SMS notification will be sent to the destination numbers, specified in the section «GSM Setup» on the page «SMS» of a device web interface.

Watchdog Reset – if a relay is controlled by the module «Watchdog», an SMS notification will be sent to the destination numbers specified in the section «GSM Setup» on the page «SMS» of a device web interface, when a relay status is changed.

Pinger Event (Loss or Restoration of communication) – when the loss or restoration of the connection of the tested node in the network is discovered, an SMS notification will be sent to the destination numbers, specified in the section «GSM Setup» on the page «SMS» of the device web interface. It is possible to configure addresses for testing the availability of the network nodes via IP address or a DNS name in the fields «Address #1 to ping», «Address #2 to ping» and the polling period in the field «Polling Period, s (30-9999)» in the section «Pinger» on the page «SMS»:

PINGER

Address #1 to ping	<input type="text"/>
Status	Fail
Address #2 to ping	<input type="text"/>
Status	Fail
Polling Period, s (30-9999)	30

Apply Changes

Parameters of the operation of the module «Pinger» on the page «SMS» are as follows:

1. Polling a specified IP address or a DNS name is started once in a specified period of time (a parameter «Polling Period, s (30-9999)»);
2. A period of waiting for a response from an IP address or a DNS name is 2 seconds;
3. The amount of repeats of polling an IP address or a DNS name is 8;
4. If there is no response from a tested node during 8 repeats, «Pinger» notifies that there is no connection with the specified IP address or a DNS name;
5. If during the next polling period there will be a response from a tested node, «Pinger» notifies that there is a connection with the specified IP address or a DNS name

It is possible to learn how to specify destination numbers for sending SMS notifications from the section "[ENG] 8.2. [DKSF 53/203.1 IU] I Need to Specify a Number for Sending SMS Notifications. How to Do This?"

After setting all necessary parameters, click the button «Apply changes».

[ENG] 8.6. [DKSF 53/203.1 IU] GSM Modem Does not Work. How to Reboot It?

The information in this section is related to the [NetPing 2 IP PDU GSM3G 203R15](#) with a built-in GSM modem. Starting with firmware version 203.1.2, there is no limit for unsuccessful modem reboots. If there were 10 reset attempts within an hour, the firmware pauses for 10 minutes and resumes attempts. If reloads are less than 10 times an hour, there is no pause.

If there are certain reasons for SMS notifications not to be sent, and a device is not managed by SMS commands, it is possible to reload a GSM modem at the page «SMS» of a device web interface:

GSM MODEM TROUBLESHOOTING

Last error of GSM modem (hit F5 to refresh)

+CME ERROR: SIM not inserted

Restart GSM

In the section «GSM Modem Troubleshooting» there is a need to click the button «Restart GSM», afterwards a modem will reboot.

In the field «Last error of GSM modem», the last error of the modem is indicated. To display an actual error, there is a need to click the button F5.

[ENG] 8.7. [DKSF 53/203.1 IU] What SMS Notifications Can the Device Send?

The information in this section is related to the [NetPing 2 IP PDU GSM3G 203R15](#) with a built-in GSM modem.

SYNTAX OF SMS NOTIFICATIONS

SMS notification looks like the following:

```
np_name (q) information
```

where:

np_name – is a name of a device for the identification of SMS notifications. It is specified on the page «SETUP» of a device web interface. If a name of a device is not specified, then the name NETPING is used

q – is a consequent number of notifications. The number is non-volatile – it is not zeroed when the power is switched off. It is used for the registration of missed (lost) notifications

Information – is the informational part of SMS notifications

INFORMATIONAL PART OF SMS NOTIFICATIONS

A notification about changing a status of an IO line:

```
IOn=0|1 label transcript
```

where:

n – is a number of an IO line, 1..4

label – is a label of an IO line that is set in the field «Memo» on the page «DISCRETE IO» of a device web interface. If a label is not set (empty), then it is not included into SMS.

transcript – is a description of a logic level of an IO line, which is specified in the pop-up dialogue for the configuring notifications from IO line on the page «DISCRETE IO» of a device web interface. If a description is not set (empty), then it is not included into SMS.

A notification about the failure of a temperature sensor (a sensor stopped responding while polling):

```
TEMP.SENSOR n "label" IS FAILED
```

where:

n – is a number of a temperature sensor, 1..8

label – is a label of a temperature sensor, which is set in the field «Memo» on the page «TEMPERATURE» of a device web interface. A label in the text of a notification is quoted. If a label is not set (empty), then it is not included into SMS.

A notification about a normal status of temperature within the specified range on the page «TEMPERATURE» of a device web interface:

```
TEMP.SENSOR n "label" IN SAFE RANGE (t1 TO t2), NOW tC
```

where:

t – is a current temperature, °C

n – is a number of a temperature sensor, 1..8

t1, t2 – are the thresholds of the «normal» temperature range, °C

label – is a label of a temperature sensor, which is set in the field «Memo» on the page «TEMPERATURE» of a device web interface. A label is quoted in the text of a notification. If a label is not set (empty), it is not included into SMS.

A notification about the temperature leaving the threshold of the specified range:

```
TEMP.SENSOR n "label" OUT OF RANGE (t1 TO t2), NOW tC
```

where:

t – is a current temperature, °C

t1, t2 – are the thresholds of the «normal» temperature range, °C

n – a number of a temperature sensor, 1..8

label – is a label of a temperature sensor, which is set in the field «Memo» on the page «TEMPERATURE» of a device web interface. A label is quoted in the text of a notification. If a label is not set (empty), it is not included into SMS.

A notification about the failure of a humidity sensor (a sensor stopped responding while polling):

```
REL.HUMIDITY SENSOR FAILED
```

A notification about the readings of a humidity sensor return to the thresholds of the specified range:

```
REL.HUMIDITY h% IN SAFE RANGE (h1..h2)
```

where:

h – is a relative humidity, %

h1, h2 – are the thresholds of a «normal» relative humidity range, %

A notification about the readings of a relative humidity rising above the thresholds of the specified range of a relative humidity:

```
REL.HUMIDITY h% ABOVE SAFE RANGE (h1..h2)
```

where:

h – is a relative humidity, %

h1, h2 – are the thresholds of the «normal» range of a relative humidity, %

A notification about falling of readings of the relative humidity below the specified range:

```
REL.HUMIDITY h% BELOW SAFE RANGE (h1..h2)
```

where:

h – is a relative humidity, %

h1, h2 – are the thresholds of a «normal» relative humidity range, %

Notification about switching on/off a built-in relay:

```
RELAY n "label" SWITCHED ON|OFF
```

where:

n – is a relay number, 1..2

label – is a label of a relay, which is set in the field «Memo» on the page «RELAY» of a device web interface. A label is quoted in the text of a notification. If a label is not set (empty), it is not included into SMS.

A notification about triggering the module «Watchdog» (a socket is switched off for short time to restore the operation of a device connected to it):

```
WDOG n "label" RESET
```

where:

n – is a relay number, 1..2

label – is a label of a relay, which is set in the field «Memo» on the page «RELAY» of a device web interface. A label is quoted in the text of a notification. If a label is not set (empty), it is not included into SMS.

A notification about changing a status of a status of the Ethernet ports of a device:

```
ETHERNET LINK STATUS: 1 UP|DOWN, 2 UP/DOWN
```

A device has a built-in three-port switch with two external ports and one internal port, to which the CPU is connected.

A notification about restoring and losing a connection with a specified IP address (the module «Pinger»):

```
PINGERn (IP/HOST) STATUS: OK|FAILED
```

where:

n – is a number of the channel of the module «Pinger», 1..2

IP/HOST – is an address of the tested IP address/ DNS name

A notification about the switching of a device to the backup power from a battery (for the device [NetPing 2 IP PDU GSM3G 203R15](#) with a built-in battery):

```
POWERED FROM BATTERY
```

A notification about a device switching to the main power from the 220 V electricity grid (for the device [NetPing 2 IP PDU GSM3G 203R15](#) with a built-in battery):

```
POWERED FROM 220V
```

A notification about a low battery charge (for the device [NetPing 2 IP PDU GSM3G 203R15](#) with a built-in battery):

```
BATTERY CHARGE < 10%
```

PERIODIC SMS REPORTS ABOUT A STATUS OF SENSORS, IO LINES AND RELAYS

A feature of sending a daily report as SMS notifications about a status of sensors, IO lines, and relays, is implemented in a device. More detailed information about configuring this report can be ready in the section [ENG] 8.9. [DKSF 53/203.1 IU] [Setting the Time of Sending a Daily Report about a Status of Sensors, IO Lines and Relays as SMS Notification](#) .

[ENG] 8.8. [DKSF 53/203.1 IU] How to Control The Device Using SMS Commands

The information in this section is related to the [NetPing 2 IP PDU GSM3G 203R15](#) device with a built-in GSM modem.

A device has a feature of remote control using SMS commands.

SYNTAX OF SMS COMMANDS

A general format of a text of an SMS command:

NETPING fff community_w kkkkk

where:

fff – is a code of a command, for example, P1+ (see below).

community_w – is a password that corresponds to SNMP community for write. It is specified on the page «SETUP» of a device web interface. It is possible to use Latin letters, numbers, character «_» without quotes and spaces.

kkkkk – is a request identifier (a random number from 3 to 9 digits). It is repeated in a response to establish a compliance between a request and a response. It is an auxiliary element of a command. If there is no identifier in a command, there is no identifier in a response.

A text of a command is case-insensitive, therefore it is possible to use uppercase and lowercase letters. Elements of a command are separated by spaces. It is not acceptable to use the next characters: ' (apostrophe), " (quote), @. Including these characters can cause the firmware to fail. Execution of a command is confirmed by a response notification (see below).

COMMAND CODES

A command code is indicated together, without spaces.

Command Code	Description
Pn+	Switch on a relay n, where n is a relay number
Pn-	Switch off a relay n, where n is a relay number
PnRt	Reboot a relay n, where n is a relay number, t is the time of resetting a relay in seconds <div style="border: 1px solid red; padding: 5px; margin-top: 5px;"> Polarity (direction) of switching a relay when performing a reset must correspond to the specified one in the settings of the module «Watchdog» (reset mode). If a relay is already in the reset state, then a reset command will not have any effect, however, a response notification about a successful completion of «NP DONE PnR» will be sent to the sender. </div>
PnW	Switch a relay n to the control mode «Wathdog», where n is a relay number
PnS	Switch a relay n to the control mode «Schedule», where n is a relay number
PnX	Switch a relay n to the control mode «Schedule+Watchdog», where n is a relay number
PnL	Switch a relay n to the control mode «Logic output», where n is a relay number
Pn?	Request a status of a relay n, where n is a relay number
P?	Request a status of all relays in a brief form
Lm+	Switch a line m to the status logic 1, where m is a number of an IO line (1..8)
Lm-	Switch a line m to the status logic 0, where m is a number of an IO line (1..8)
LmP	Issue a pulse to the line m, where m is a number of an IO line (1..8)

Lm?	Request a status of a line m, where m is a number of an IO line (1..8)
L?	Request a status of all IO lines in a brief form
N?	Request a status of pingers on the page «SMS»
Ka	Send an IR command through the module IRC-TR v2, where a is a number of a command
Tb?	Request readings of a temperature sensor b, where b is a number of a temperature sensor
H?	Request readings of a humidity sensor
A?	Запросить состояние аккумулятора (для устройства NetPing 2 IP PDU GSM3G 203R15 со встроенным аккумулятором).
U	Request a balance of a SIM card

EXAMPLES OF SMS COMMANDS

A command to switch on a relay 1 of a device:

```
NETPING P1+ SWITCH
```

A command to switch off a relay 2 of a device:

```
NETPING P2- SWITCH
```

RESPONSE NOTIFICATIONS TO CONTROLLING SMS COMMANDS

Confirmation of a command execution, such as switching a relay or changing a status of a discrete output line:

```
NP DONE fff kkkkk
```

where:

fff – is a code of an outgoing command, execution of which is confirmed by this notification. For example, P1+

kkkkk – is a request identifier (a random number from 3 to 9 digits). It is repeated in a response to establish a compliance between a request and a response. It is an auxiliary element of a command. If there is no identifier in a command, there is no identifier in a response.

Error when a command is read by a device. Most probably, an incorrect text of an outgoing command:

```
NP WRONG CMD: "outgoing command kkkkk"
```

where:

Outgoing command – is a text of an outgoing command, completely quoted.

kkkkk – is a request identifier (a random number from 3 to 9 digits). It is repeated in a response to establish a compliance between a request and a response. It is an auxiliary element of a command. If there is no identifier in a command, there is no identifier in a response.

Incorrect password (Community) in an outgoing command:

```
NP WRONG PASSWD IN kkkkk
```

```
NP WRONG PASSWD
```

where:

kkkkk – is a request identifier (a random number from 3 to 9 digits). It is repeated in a response to establish a compliance between a request and a response. It is an auxiliary element of a command. If there is no identifier in a command, there is no identifier in a response. (the second command)

RESPONSE NOTIFICATIONS TO SMS COMMANDS OF REQUESTING A STATUS/STATE

A response to a request (NETPING Pn? community_w kkkkk) about a relay status:

```
NP REPLY Pnb kkkkk
```

where:

n – is a relay number

b – is a relay control mode, possible relay statuses are coded with the next characters: «M+» (manual on), «M-» (manual off), «W» (watchdog), «S» (schedule), «X» (schedule+watchdog), «L» (logic).

kkkkk – is a request identifier (a random number from 3 to 9 digits). It is repeated in a response to establish a compliance between a request and a response. It is an auxiliary element of a command. If there is no identifier in a command, there is no identifier in a response.

A response to a request (NETPING P? community_w kkkkk) about a status of all relays:

```
NP REPLY P1bP2b kkkkk
```

where:

b – is a relay control mode, possible statuses of a relay are coded with the characters: «M+» (manual on), «M-» (manual off), «W» (watchdog), «S» (schedule), «X» (schedule+watchdog), «L» (logic).

kkkkk – is a request identifier (a random number from 3 to 9 digits). It is repeated in a response to establish a compliance between a request and a response. It is an auxiliary element of a command. If there is no identifier in a command, there is no identifier in a response.

A response to a request (NETPING Lm? community_w kkkkk) about a status of an IO line:

```
NP REPLY L1=0(IN|OUT|OUT.L) kkkkk
```

where:

A value L1=0 is provided as an example. Before a symbol «=» there is a number of a line, after a symbol «=» there is a logic level of a line.

IN|OUT|OUT.L – is an operation mode of an IO line, where IN is the «input», OUT is the «output», OUT.L is the «logic output»

kkkkk – is a request identifier (a random number from 3 to 9 digits). It is repeated in a response to establish a compliance between a request and a response. It is an auxiliary element of a command. If there is no identifier in a command, there is no identifier in a response.

A response to a request (NETPING L? community_w kkkkk) about a status of all IO lines:


```
NP REPLY L1=0(IN|OUT|OUT.L) L2=1(IN|OUT|OUT.L) L3=0(IN|OUT|OUT.L) L4=1(IN|OUT|OUT.L) kkkkk
```

where:

Values L1=0 L2=1 L3=0 L4=1 are provided as an example. Before the symbol «=» there is a number of a line, after the symbol «=» there is a logic level on a line.

IN|OUT|OUT.L – is the operation mode of an IO line, where IN is the «input», OUT is the «output», OUT.L is the «logic output»

kkkkk – is a request identifier (a random number from 3 to 9 digits). It is repeated in a response to establish a compliance between a request and a response. It is an auxiliary element of a command. If there is no identifier in a command, there is no identifier in a response.

A response to a request (NETPING N? community_w kkkkk) about a status of pingers, built into the SMS module:

```
NP REPLY N1(IP|DNS name)=OK|FAILED N2(IP|DNS name)=OK|FAILED kkkkk
```

where:

OK – a specified IP address/DNS name responds

FAILED – a specified IP address/DNS name is silent

kkkkk – is a request identifier (a random number from 3 to 9 digits). It is repeated in a response to establish a compliance between a request and a response. It is an auxiliary element of a command. If there is no identifier in a command, there is no identifier in a response.

A response to a request (NETPING Tb? community_w kkkkk) about readings of a temperature sensor. A sensor with the number b failed or is not connected:

```
NP REPLY Tb=? SENSOR FAILED kkkkk
```

where:

b – is a number of a temperature sensor

kkkkk – is a request identifier (a random number from 3 to 9 digits). It is repeated in a response to establish a compliance between a request and a response. It is an auxiliary element of a command. If there is no identifier in a command, there is no identifier in a response.

A response to a request (NETPING Tb? community_w kkkkk) on the readings of a temperature sensor. A sensor with the number b is in the status «below normal», «normal», «above normal» accordingly:

```
NP REPLY Tb=tC BELOW|IN|ABOVE SAFE RANGE (t1..t2C) kkkkk
```

where:

b – is a number of a temperature sensor

t – is a current reading of a temperature, in °C

t1, t2 – are the thresholds of the «normal» temperature range, in °C

kkkkk – is a request identifier (a random number from 3 to 9 digits). It is repeated in a response to establish a compliance between a request and a response. It is an auxiliary element of a command. If there is no identifier in a command, there is no identifier in a response.

A response to a request (NETPING H? community_w kkkkk) on the readings of a humidity sensor. A sensor failed or is not connected:

```
NP REPLY H=? SENSOR FAILED kkkkk
```

where:

kkkkk – is a request identifier (a random number from 3 to 9 digits). It is repeated in a response to establish a compliance between a request and a response. It is an auxiliary element of a command. If there is no identifier in a command, there is no identifier in a response.

A response to a request (NETPING H? community_w kkkkk) about readings of a humidity sensor. A sensor is in the status «below normal», «normal», «above normal» accordingly:

```
NP REPLY H=h% BELOW|IN|ABOVE SAFE RANGE (h1..h2%) T= tC kkkkk
```

where:

h – is a current reading of a relative humidity, in %

h1, h2 – are the thresholds of the «normal» range of a relative humidity, in %

t – is a current reading of a temperature, in °C

kkkkk – is a request identifier (a random number from 3 to 9 digits). It is repeated in a response to establish a compliance between a request and a response. It is an auxiliary element of a command. If there is no identifier in a command, there is no identifier in a response.

A response to a request (NETPING A? community_w kkkkk) about a battery status (for the [NetPing 2 IP PDU GSM3G 203R15](#) device with a built-in battery):

```
NP REPLY A? POWER SCR: V, CHARGING: C
```

where:

V – is a power source of a device, can take the next values: «220V» (powering from 220 grid), «BATTERY» (powering from a battery)

C – is a battery charge status, can take the next values: «YES» (a battery is charging), «LOW» (a battery charge is less than 10% of its total capacity)

Requesting a balance of a SIM card (NETPING U community_w kkkkk). A command runs the USSD request. The next SMS notification is sent in a response to a command:

```
NP DONE U - USSD STARTED, WAIT FOR REPLY BY SMS
```

Less than in a minute after the device receives a response of its balance, a balance is sent as an individual SMS notification to a sender's number.

[ENG] 8.9. [DKSF 53/203.1 IU] Setting the Time of Sending a Daily Report about a Status of Sensors, IO Lines and Relays as SMS Notification

The information in this section is related to the [NetPing 2 IP PDU GSM3G 203R15](#) device with a built-in GSM modem.

To set the time of sending a daily report about a status of sensors, IO lines and relays as SMS notification, there is a need to go to the page «SMS» of a device web interface:

DAILY SUMMARY REPORT (SENSORS AND IO)

Time to send Summary Report (24h format hh:mm, up to 5 times, separated by space)

Apply Changes

where:

Time to send Summary Report (24h format hh:mm, up to 5 times, separated by space)– is the time, when SMS reports about a status of sensors, IO lines, and relays will be sent. On default: empty line

After setting the time, there is a need to save changes to the parameters by clicking the button «Apply changes»

[ENG] 8.10. [DKSF 53/203.1 IU] How to Know the IMEI of a Built-in GSM Modem?

The information in this section is related to the [NetPing 2 IP PDU GSM3G 203R15](#) with a built-in GSM modem.

In order to get the IMEI (international identifier of Mobile Equipment) of the built-in GSM modem, go to the HOME page of the web interface:

Home

[HOME](#) | [SETUP](#) | [E-MAIL](#) | [RELAYS](#) | [WATCHDOG](#) | [SCHEDULE 1](#) | [SCHEDULE 2](#) | [SMS](#)
[TEMPERATURE](#) | [HUMIDITY](#) | [DISCRETE IO](#) | [IR COMMANDS](#) | [LOGIC](#) | [FIRMWARE](#) | [LOG](#)

DEVICE IDENTIFICATION

Hostname	2PWR-220-v13-GSMSMS
Location	Moscow Office
Contact	
Serial Number	002 972 885
MAC Address	00:a2:d5:5c:2d:00
GSM Modem IMEI	861715031757587
Device Model	2 IP PDU GSM3G 203R15
Firmware Version	v203.1.2.E-1
Hardware Version	1.10
Uptime	0d 22h 28m 33s

NETWORK SETTINGS

IP Address	192.168.2.52
Netmask	255.255.255.0
Gateway	192.168.2.2

[Reboot](#)

Or go to the service page of the device's web interface at:

<http://192.168.0.100/at.html>

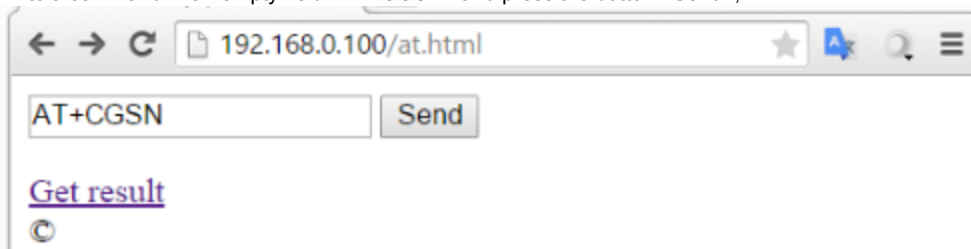
where:

192.168.0.100 — IP-address of the NetPing device;

/at.html — service page for sending AT commands.

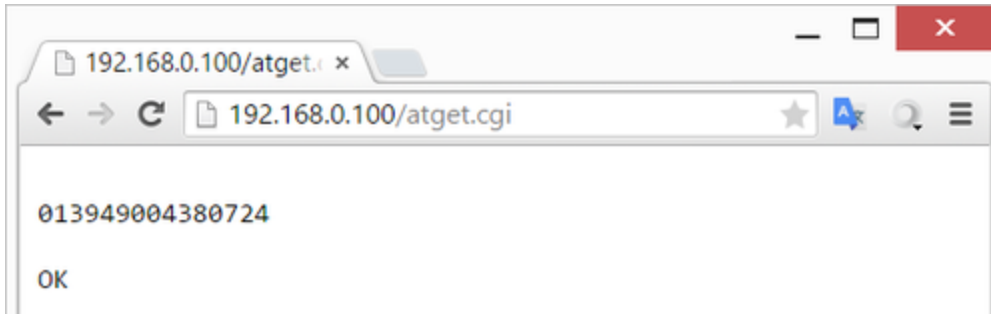
In order to send an AT command to get IMEI you need to:

1. Write a command in an empty field «AT+CGSN» and press the button «Send»;



2. Press the link «Get result» in order to see IMEI of the built-in GSM modem.

NetPing server room environmental monitoring solutions and IP power distribution units.



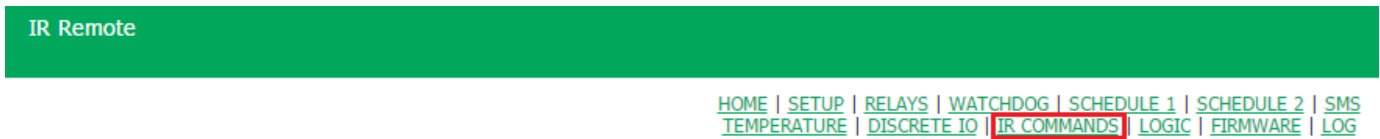
NetPing server room environmental monitoring solutions and IP power distribution units.

[ENG] 9. [DKSF 53/203.1 IU] Working with an IR Operating Module

[ENG] 9.1. [DKSF 53/203.1 IU] How to Record IR Commands Correctly?

An IR Control module works with an IR transceiver IRC-TR v2. The transceiver can record and reproduce IR signals from remote controls of home appliances.

To record IR commands, there is a need to go to the page «IR COMMANDS» of a device web interface:



IR COMMAND RECORDING

IR Transceiver Temporary Buffer		N	Memo (device, command)	
Start recording	Playback/Test	1		Save

Before using IR Remote feature, please read user manual!
External IR Remote device IRC-TR v2 is not attached or is not operational!

SAVED IR COMMANDS PLAYBACK

N	Memo	Playback	N	Memo	Playback
1	error 20	>	9	-	>
2	-	>	10	-	>
3	-	>	11	-	>
4	-	>	12	-	>
5	-	>	13	-	>
6	-	>	14	-	>
7	-	>	15	-	>
8	-	>	16	-	>



New IR commands are recorded in the section «IR COMMAND RECORDING»:

1. Prepare an IR remote, from which it is necessary to capture a command.
2. Make sure that a red LED on the IR transceiver glows steadily
3. Choose a command number «N» and enter its description into the field «Memo (device, command)».
4. Click the button «Start recording». Send a command from an IR remote 30 seconds after clicking the button «Start recording». Otherwise, a transceiver will go to a standby mode. A remote and a transceiver must be disposed coaxially at the distance of 10-30 cm for an «eye» of a transceiver to see a transmitting IR LED of a remote. A command will be recorded.
5. Check a recorded command by clicking the button «Play/Test».
6. Click the button «Save» to save a command in a nonvolatile memory if a command is successfully reproduced.

It is desirable to check again the operation of an IR command by clicking a corresponding button «>» in the section of saved commands.

[ENG] 9.2. [DKSF 53/203.1 IU] Reproducing IR Commands through the Web Interface

An IR control module works with an IR transceiver IRC-TR v2. A transceiver can record and reproduce IR signals from remotes of home appliances.

To reproduce IR commands, go to the page «IR COMMANDS» of a web interface of a device:

IR Remote

[HOME](#) | [SETUP](#) | [RELAYS](#) | [WATCHDOG](#) | [SCHEDULE 1](#) | [SCHEDULE 2](#) | [SMS TEMPERATURE](#) | [DISCRETE IO](#) | **[IR COMMANDS](#)** | [LOGIC](#) | [FIRMWARE](#) | [LOG](#)

IR COMMAND RECORDING

IR Transceiver Temporary Buffer N Memo (device, command)

 1 ▾

Before using IR Remote feature, please read user manual!
External IR Remote device IRC-TR v2 is not attached or is not operational!

SAVED IR COMMANDS PLAYBACK

N	Memo	Playback	N	Memo	Playback
1	error 20	>	9	-	>
2	-	>	10	-	>
3	-	>	11	-	>
4	-	>	12	-	>
5	-	>	13	-	>
6	-	>	14	-	>
7	-	>	15	-	>
8	-	>	16	-	>

In the section «Saved IR Commands» recorded IR commands are reproduced.

To reproduce a saved IR command click the button «>» in the section «Saved IR Commands» next to the name of a necessary command. A red LED on a transceiver must be switched off for 0.5 s., initiating reproducing a command.

Do not reproduce «empty» command cells, where there is no proper record of an IR command. This can cause a transceiver to freeze.

You can also play IR commands using the SNMP protocol and HTTP API commands.

[ENG] 9.3. [DKSF 53/203.1 IU] Is It Possible to Reproduce IR Commands through the SNMP?

Reproducing of the IR commands can be realized through an SNMP protocol. A necessary information is contained in the MIB file that corresponds to the used firmware version of a NetPing device. It is possible to download the required MIB file from the pages of the description of devices in the section «Downloads»:

- [NetPing 2 IP PDU ETH 53R14](#);
- [NetPing 2 IP PDU GSM3G 203R15](#).

It is possible to record commands only when using the device web interface.

Reproducing IR commands using the means of an SNMP protocol:

1. Before issuing an IR command, make sure that a transceiver is in a standby mode, reading the status through the OID .1.3.6.1.4.1.25728.7900.1.3.0. A status value «commandCompleted (0)» or «commandAccepted (2)» means that an IR transceiver is ready to reproduce an IR command;
2. To issue an IR command, write a number of a command (a cell number of a saved command) in OID .1.3.6.1.4.1.25728.7900.1.1.0;
3. If a transceiver is in a status «protocolError (1)», then a reboot is performed by writing the value «1» into OID .1.3.6.1.4.1.25728.7900.1.2.0 (works or the IR extension module IRC-TR v1);
4. After the reboot, there is a need to wait for the readiness «commandCompleted (0)», by reading the status. If the repeated reproducing of an IR command does not disrupt the logic of the equipment operation, then the issuing of a command is better to repeat 2-4 times, each time repeating the readiness before issuing a command

All statuses of the IR extension module can be browsed in the MIB files DKSF_53.1.x_MB.mib, DKSF_203.1.x_MB.mib (OID «nplrStatus») or on the page «[ENG] 13.3. [DKSF 53/203.1 IU] What OIDs a Device Supports? » for this firmware description.

[ENG] 9.4. [DKSF 53/203.1 IU] How to Determine the Firmware Version of the IR Module?

To determine a firmware version of an IR module, go to the web page «IR Commands» of a device web interface:

IR Remote

[HOME](#) | [SETUP](#) | [RELAYS](#) | [WATCHDOG](#) | [SCHEDULE 1](#) | [SCHEDULE 2](#) | [SMS](#)
[TEMPERATURE](#) | [DISCRETE IO](#) | **[IR COMMANDS](#)** | [LOGIC](#) | [FIRMWARE](#) | [LOG](#)

IR COMMAND RECORDING

IR Transceiver Temporary Buffer N Memo (device, command)

 1

Before using IR Remote feature, please read user manual!
External IR Remote device IRC-TR v2 is not attached or is not operational!

SAVED IR COMMANDS PLAYBACK

N	Memo	Playback	N	Memo	Playback
1	error 20	>	9	-	>
2	-	>	10	-	>
3	-	>	11	-	>
4	-	>	12	-	>
5	-	>	13	-	>
6	-	>	14	-	>
7	-	>	15	-	>
8	-	>	16	-	>

© 2014 Netping East Ltd

In the section «Saved IR Commands» there is an inscription «A version of a connected IR control module is IRC-TR v2: HW X.X / BL X.X / FW X.X»

where:

HW – is a hardware version of an IR module.

BL – is a Bootloader version of an IR module.

FW – is a firmware version of an IR module.

A version of the hardware, loader and firmware can be seen if a module is correctly connected to a device and works properly. Otherwise, in the section «Saved IR Commands» there will be an inscription «External IR Remote device IRC-TR v2 is not attached or is not operating!»

[ENG] 9.5. [DKSF 53/203.1 IU] Recommendations

If a transceiver is stuck in a protocol as a result of a failure, noise, an operator's error or managing software failure, and reacts improperly to incoming commands, a reset can be performed by a short-term (5 s.) switching off a transceiver from a NetPing device.

Try to avoid recording commands in electroluminescent or LED lighting. The flickering light with a frequency of operation of the electronic ballast can decrease a quality of a recorded IR signal.

Watch avoiding any objects, particularly operator's hands, between an emitter of an IR remote and an «eye» of a transceiver while recording commands.

If a recorded command works unreliably, change a location of a transceiver in relation to a controlled device. In addition, change conditions of recording a command.

NetPing server room environmental monitoring solutions and IP power distribution units.

[ENG] 10. [DKSF 53/203.1 IU] Working with the Module «Logic»

[ENG] 10.1. [DKSF 53/203.1 IU] What Is «Logic»?

A logic module of a firmware is designed for a simple automation and can perform such tasks as maintaining a microclimate, controlling automatic turning on - turning off a backup equipment, etc. The logic operates on the basis of rules programmed by a user through a web interface. The page «LOGIC» of a device web interface describes an operating algorithm of a module and its configuration capabilities.

It is prohibited to use a NetPing device to manage electrical circuits when a violation of the control may cause a significant damage.

[ENG] 10.2. [DKSF 53/203.1 IU] How to Use the Module «Logic»?

The operation of the logic module is based on a list of programmed rules. The rules allow you to set a flexible logic control circuit for IO lines, relays, and other device firmware modules, depending on changing external conditions.

LOGIC Logic control is stopped (not active) 11

1	2	3	4	5	6	7		
<input type="checkbox"/>	vWhile	PINGER 1	Responding	Keep switched off	IO 1		Move up	Move down
<input type="checkbox"/>	vWhile	PINGER 1	Responding	Keep switched off	IO 1		Move up	Move down
<input type="checkbox"/>	vWhile	PINGER 1	Responding	Keep switched off	IO 1		Move up	Move down
<input type="checkbox"/>	vWhile	PINGER 1	Responding	Keep switched off	IO 1		Move up 8	Move down
<input type="checkbox"/>	vWhile	PINGER 1	Responding	Keep switched off	IO 1		Move up	Move down
<input type="checkbox"/>	vWhile	PINGER 1	Responding	Keep switched off	IO 1		Move up	Move down
<input type="checkbox"/>	vWhile	PINGER 1	Responding	Keep switched off	IO 1		Move up	Move down
<input type="checkbox"/>	vWhile	PINGER 1	Responding	Keep switched off	IO 1		Move up	Move down

9 10

where:

1. Rule Number

The less is a line number, the higher is a rule priority. If two rules form a controversial outgoing command (switch on and switch off an output simultaneously), then a rule with a higher priority will work. If rules do not conflict as they manage different outputs or form non-conflict commands – then a correlation of their priorities does not influence the work.

2. Checkbox for Activating a Rule

A rule can be activated by checking a checkbox. Inactive rules are displayed in gray.

3. A Type of a Rule (an Operation Mode of a Rule)

Possible values: "While", "If". The "While" rules react to the state of the input and act constantly. The "If" rules respond to changes in the input state (second position in the rule line). The "While" rule is intended for programming the conditions under which the output is constantly kept in a given state while the condition is fulfilled. When the condition is not satisfied, the output state may be changed by other rules. The "If" rule is intended for programming an instantaneous reaction to a given event, such as a change in the logic level on an IO line or the disappearance of a response during pinger operation. As long as the input of the rule remains unchanged, the "If" rule does not affect the state of its output, even if the condition of the rule is satisfied. "While" rules always take precedence over "If" rules. For example, while one of the "While" rules holds the output off, rules like "If", which include output for a given event, will not work.

4. Input

An input is an information source for a rule operation. Its possible values are represented in the table:

3. A Type of a Rule (an Operation Mode of a Rule)

Name	Explanation
RESET	It is a signal, which is active 5 seconds after the module «Logic» starts or the module «Logic» is rebooted by the button «Reset» at the web page. It is used for an initial hardware initialization. For example, it is possible to program a 5-second pulse to a relay when a logic starts or issue an IR command to switch a device off
IO 1	IO line 1. It must be switched to the mode «input» on the page «INPUT-OUTPUT» before using
IO 2	IO line 2. It must be switched to the mode «input» on the page «INPUT-OUTPUT» before using
IO 3	IO line 3. It must be switched to the mode «input» on the page «INPUT-OUTPUT» before using
IO 4	IO line 4. It must be switched to the mode «input» on the page «INPUT-OUTPUT» before using
TSTAT 1	Thermo (hygro) stat 1. Before using the thermo (hygro) stat, it must be configured on the "LOGIC" page.

TSTAT 2	Thermo (hygro) stat 1. Before using the thermo (hygro) stat, it must be configured on the "LOGIC" page.
PINGER 1	Pinger 1. A pinger must be configured on the page «LOGIC» before using
PINGER 2	Pinger 2. A pinger must be configured on the page «LOGIC» before using
AC PWR	220 V power supply availability at an input of a device

5. Condition. The condition under which the rule is applied and a command is issued that changes the state of the output. The available set of conditions varies depending on the selected input type and reflects the meaning of the input state:

- RESET possible values – «log. 1», «log. 0»;
- IO 1, IO 2, IO 3, IO 4 possible values – «log. 1», «log. 0»;
- TSTAT 1, TSTAT 2 возможные значения – «Below specified T», «Above specified T»;
- PINGER 1, PINGER 2 возможные значения – «Responding», «No Respond»;
- AC PWR possible values – «Available», «Not Available»

A rule of an «If» type works only in the moment of fulfilling a condition.

A rule of a «While» type works all the time while a condition is fulfilled.

6. Command

It is a command, which is fulfilled when a rule triggered (a condition is satisfied).

For an «If» rules possible values are – «Switch on», «Switch off», "Flip". These commands trigger at the moment when a condition appears.

For a «While» rules possible values are – «Keep switched on», «Keep switched off». These commands work all the time when a condition is fulfilled.

7. Output

It is an output managed by a rule. Its possible values are represented in the table:

Name	Explanation
IO 1	IO line 1. It must be switched to the mode «output of logic» on the page «DISCRETE IO» before using
IO 2	IO line 2. It must be switched to the mode «output of logic» on the page «DISCRETE IO» before using
IO 3	IO line 3. It must be switched to the mode «output of logic» on the page «DISCRETE IO» before using
IO 4	IO line 4. It must be switched to the mode «output of logic» at the page «DISCRETE IO» before using
RELAY N	It is a relay, built into the body of the device, where N - is a number of the relay channel. The relay must be switched to the mode «Logic» on the page «RELAYS» before using
SNMP 1	SNMP Setter 1. It must be configured at the page «LOGIC» before using
SNMP 2	SNMP Setter 2. It must be configured at the page «LOGIC» before using
IR 1	IR command 1. A command must be recorded and saved into the cell 1 before using on the page «IR COMMANDS».
IR 2	IR command 2. A command must be recorded and saved into the cell 2 before using on the page «IR COMMANDS».
IR 3	IR command 3. A command must be recorded and saved into the cell 3 before using on the page «IR COMMANDS».
IR 4	IR command 4. A command must be recorded and saved into the cell 4 before using «IR COMMANDS».

8. Buttons Move Up/Move Down

Buttons are designed to change a position of a rule in the list thus changing a rule priority. If rules form conflicting commands for an output, the a rule that is located higher in the list will work. However, «While» rules always have a higher priority towards «If» rules, regardless their mutual location in the list.

9. Control Buttons

Control buttons work directly when clicking them. The buttons «Start» and «Stop» control starting and stopping of the rules operation. This status is kept when switching a device off. If rules are stopped, then a warning line of a logic status will appear (10). «Reset» button switches outputs controlled by a logic module, into the specified initial status «0» (off), and initiates a reset signal. Rules that have a reset signal RESET as an input can switch outputs to another required initial status. There is a need to take into account that if rules are not stopped before clicking the button «Reset», then a status of outputs can be immediately changed and a reset command will have no external effect.

10. Status Line

If rules operation is stopped, a warning line appears.

11. Apply Changes Button

After setting all necessary settings, click the button «Apply changes».

[ENG] 10.3. [DKSF 53/203.1 IU] Configuring Thermo(Hygro)Stat

To configure a thermo(hygro)stat, there is a need to go to the page «LOGIC» of a device web interface:

[HOME](#) | [SETUP](#) | [E-MAIL](#) | [RELAYS](#) | [WATCHDOG](#) | [SCHEDULE 1](#) | [SCHEDULE 2](#) | [SMS](#)
[TEMPERATURE](#) | [HUMIDITY](#) | [DISCRETE IO](#) | [IR COMMANDS](#) | **LOGIC** | [FIRMWARE](#) | [LOG](#)

LOGIC

1	<input checked="" type="checkbox"/>	While	TSTAT 1	Above Threshold	Keep switched off	RELAY 1	Move up	Move down
2	<input checked="" type="checkbox"/>	While	TSTAT 2	Below Threshold	Keep switched on	RELAY 1	Move up	Move down
3	<input type="checkbox"/>	While	PINGER 1	Responding	Keep switched off	IO 1	Move up	Move down
4	<input type="checkbox"/>	While	PINGER 1	Responding	Keep switched off	IO 1	Move up	Move down
5	<input type="checkbox"/>	While	PINGER 1	Responding	Keep switched off	IO 1	Move up	Move down
6	<input type="checkbox"/>	While	PINGER 1	Responding	Keep switched off	IO 1	Move up	Move down
7	<input type="checkbox"/>	While	PINGER 1	Responding	Keep switched off	IO 1	Move up	Move down
8	<input type="checkbox"/>	While	PINGER 1	Responding	Keep switched off	IO 1	Move up	Move down

THERMO(HYGR)STAT

	TSTAT 1	TSTAT 2
Sensor	Thermo 1	Thermo 1
Current value, deg.C or % rel.hum.	-	-
Threshold, deg.C or % rel.hum.	20	20
Hysteresis, 1..8 deg.C or % rel.hum.	2	2
Status	Sensor is failed	Sensor is failed

In the section «Thermo(Hygro)Stat» you can configure the parameters of a thermostat.

Thermo(hygro)stat is used to maintain a constant temperature or a relative humidity of the air. Besides a programmed thermo(hygro)stat, you have to set a minimum of two rules: one for switching on, for example, a heater or a cooler, and another one for switching them off. It is possible to configure no more than two channels of a thermo(hygro)stat – «TSTAT 1», «TSTAT 2». A corresponding thermo(hygro)stat is chosen a data source («input») in logic rules.

Sensor – is a number of a temperature or humidity sensor, with which a thermo(hygro)stat works. It is possible to plug up to eight temperature sensors and one humidity sensor to a device. On default: 1

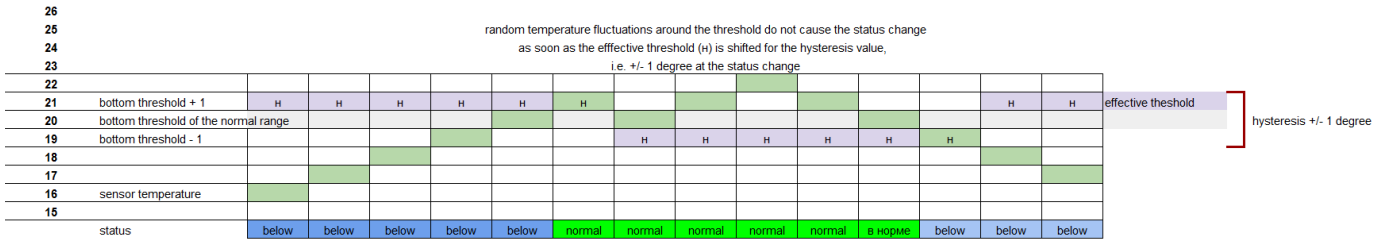
Current value, deg.C or % rel.hum. – is a reading of a temperature or humidity sensor in the current moment of time

Threshold, deg.C or % rel.hum. – is a value of a temperature or a relative humidity that is supported by a thermo(hygro)stat (in whole degrees of Celsius, a value can be negative). On default: 20

Hysteresis, 1..8 deg.C or % rel.hum. – a hysteresis sets a «dead zone» near a specified temperature or a relative humidity, within which a thermo(hygro)stat does not register fluctuations. This feature allows avoiding frequent random switching, for example, of a heater (cooler) caused by natural spontaneous fluctuations of a temperature or a relative humidity. If a current status of a thermo(hygro)stat is «above (threshold M)», then a threshold for switching a status is a specified temperature or a relative humidity, decreased on a hysteresis value. And vice versa, if a current status is «below (threshold M)», then a threshold for switching is a specified temperature or relative humidity, increased on a hysteresis value. As soon as a temperature or a relative humidity reaches the threshold (taking a hysteresis into account) when rising or falling and thus leaves the threshold of a «corridor», a status of a thermo(hygro)stat is changed to the opposite one. On default: 2

Temperature

value
degrees C



Status – is a status of channels of a thermo(hygro)stat «TSTAT 1», «TSTAT 2». It can have the next values: «sensor failed», «above (threshold M)», «below (threshold M)».

After setting the values, there is a need to click the button «Apply changes».

After configuring a thermo(hygro)stat, there is a need to configure a rule in the module «Logic». It is possible to learn how to do this from the section [ENG] 10.2. [DKSF 53/203.1 IU] How to Use the Module «Logic»?

[ENG] 10.4. [DKSF 53/203.1 IU] How to Configure Pinger in the Module «Logic»?

To configure a pinger, there is a need to go to the page «LOGIC» of a device web interface:



In the section «Pinger» it is possible to configure the testing of the availability of a specified IP address/DNS name via the network. A result of testing (pinger status) can be chosen as an «input» to the logic rule. It is possible to learn how to configure a rule in the module «Logic» from the section «[ENG] 10.2. [DKSF 53/203.1 IU] How to Use the Module «Logic»?». It is possible to configure no more than two pingers – «PINGER 1», «PINGER 2». A typical use of a pinger is automatic switching on a power of a backup equipment when a connection line fails.

PINGER

	PINGER 1	PINGER 2
Address	<input type="text"/>	<input type="text"/>
Polling period, s (5-900)	15	15
Ping timeout, ms (100-10000)	1000	1000
Status	-	-

where:

Address – is an IP address/DNS name of a device, tested for availability. An empty line disables polling. On default: empty line

Polling period, s (5-900) – a value is chosen taking into account how rapidly the failure must be discovered. Also, there is a need to note that too frequent switching of power can decrease a lifetime of the equipment. If there is no response, ICMP echo (ping) is repeated after timeout is over and not when there is the next polling period. On default: 15

Ping timeout, ms (100-10000) – is a time of waiting for a response to ping. Timeout is chosen when taking into consideration a speed of local network operation and the frequency of repeating unresponded pings. If there is no response to ping when a specified timeout is over, then sending ping is repeated immediately. If after five repeated sending there is no response, a status of a pinger is changed to «silent», and repeats are stopped until the next polling period starts. On default: 1000

Status – possible values are: «responds», «silent», «-». If polling is not completed, a status can be undefined. In this case, the rules that depend on a pinger status do not create any commands and their outputs are managed by other rules or are kept in the previous status. A pinger status is updated automatically nearly four times a minute.

«Пингер» переходит в статус «молчит». If domain names are used, there is a need to note that the module «Logic» will not be able to determine the availability of a requested address because of the unavailability of a DNS server or a lack of an IP address in the settings. «Pinger» is switched to the status «silent».

After the values of a pinger are set, there is a need to click the button «Apply changes».

[ENG] 10.5. [DKSF 53/203.1 IU] What Is SNMP SETTER?

SNMP Setter is used as an output for the rule of the module «Logic» and is designed to set an SNMP OID variable on a remote device via an SNMP v1 protocol. In particular, it is possible to manage IO lines, relays, and other parameters of a remote NetPing device through a network.

To configure SNMP SETTER, there is a need to go to the page «LOGIC» of a device web interface:

Logic

[HOME](#) | [SETUP](#) | [E-MAIL](#) | [RELAYS](#) | [WATCHDOG](#) | [SCHEDULE 1](#) | [SCHEDULE 2](#) | [SMS](#)
[TEMPERATURE](#) | [HUMIDITY](#) | [DISCRETE IO](#) | [IR COMMANDS](#) | LOGIC | [FIRMWARE](#) | [LOG](#)

. ----

In the section «SNMP SETTER» the next parameters are configured:

SNMP SETTER

	SNMP 1		SNMP 2	
Memo				
Address				
UDP Port	161		161	
OID (.1.3.6...)	.1.3.6.1.4.1.25728.5800.3.1.3.1		.1.3.6.1.4.1.25728.5800.3.1.3.1	
Community				
'On' value (type Integer32)	1		1	
'Off' value (type Integer32)	0		0	
Test it	<input type="checkbox"/> On	<input type="checkbox"/> Off	<input type="checkbox"/> On	<input type="checkbox"/> Off
Status	-		-	

Channel number («SNMP 1», «SNMP 2») – this number is specified as an «output» of a logic rule.

Memo – is a random text up to 30 characters. On default: empty line

Address – is an IP address, where an SNMP SET command will be sent. On default: empty line

UDP Port – is a port that listens to an SNMP agent on a remote device. On default: 161

OID (.1.3.6...) – is an identifier of a variable that will be specified on a remote device. There is a need to indicate a full OID in a numeric notation, starting from .1.3... A list of variables is contained in the MIB file from a device in a specific format or in the documentation from a device. To browse the MIB file conveniently, as a tree and check the functions of variables, it is possible to use the freeware [iReasoning MIB Browser](#) or any other similar software. On default: .1.3.6.1.4.1.25728.5800.3.1.3.1

Community – SNMP Community for write that is configured on a remote device. On default: empty line

«On» value (type Integer32) – is a value that will be written in OID on a remote device when evoking the action «On», by clicking the button «On» or through an «output» of a logic rule. A type of a value is 32-bit integer number with a sign. On default: 1

«Off» value (type Integer32) – is a value that will be written in OID on a remote device when evoking the action «Off», by clicking the button «Off» or through an «output» of a logic rule. A type of a value is 32-bit integer number with a sign. On default: 0

Test it – when clicking the buttons «On» and «Off» a device immediately sends corresponding requests with the values «On» or «Off».

Status – several seconds after sending a request to set a variable, in the field «Status» a result «OK» is displayed. This means that a confirmation is received and a variable is successfully set. «Timeout» means that a confirmation is not received yet. This can happen because of unavailability of a controlled device, its failure, incorrect IP address, port or community. A dash «-» means that an SNMP SETTER did not send a command yet

or a status is not determined in a request. «Waiting for a response» means that an SNMP SETTER sent a command to a remote device and waits to receive a response. Other variants mean that a response with the error code has been received, a textual description of which is displayed in a status line.

After changing settings, click the button «Apply changes».

After configuring SNMP SETTER, there is a need to configure a rule in the module «Logic». It is possible to learn how to do this from the section «[\[ENG\] 10.2. \[DKSF 53/203.1 IU\] How to Use the Module «Logic»?»](#)».

[ENG] 10.6. [DKSF 53/203.1 IU] Reset Signal and Initial Statuses of Outputs

When firmware starts operating or when the button «Reset» is clicked at the page «LOGIC» of a device web interface, the outputs controlled by logic are returned to the initial status. On default, this status is «off» or «logic 0». Another status can be set using the rule at the page «LOGIC», which uses reset signal «RESET» as an input.

After the firmware restarts, a logic configuration is saved or the button «Reset» is clicked at the page of a logic, there is a pause for 5 seconds. Then, after these 5 seconds the reset signal «RESET» is activated.

A rule with a condition «If RESET = logic 1» is activated 5 seconds after a reset.

A rule with a condition «If RESET = logic 0» is activated 10 seconds after a reset.

A rule with a condition «While RESET = logic 1» is active for 5 seconds 5 seconds after a pause.

A rule with a condition «While RESET = logic 0» is always active except for 5 seconds of resetting period.

Therefore, it is possible to form a 5-second external reset pulse on one or several outputs or provide a correct sequence of power supply to external devices.

[ENG] 10.7. [DKSF 53/203.1 IU] Connecting Relays and IO Lines

Besides indicating a relay or an IO line as an «output» for a rule of a module «Logic», there is a need to specify that the relay or the IO line will be used together with the logic module.

Control of Relays

[HOME](#) | [SETUP](#) | [RELAYS](#) | [WATCHDOG](#) | [SCHEDULE 1](#) | [SCHEDULE 2](#) | [SMS TEMPERATURE](#) | [DISCRETE IO](#) | [IR COMMANDS](#) | [LOGIC](#) | [FIRMWARE](#) | [LOG](#)

	Relay 1	Relay 2
Memo (up to 30 chars)		
Source of control	Manual On	Manual On
Switch On for short time (5s)		On
Switch Off for short time (5s)		Off
Relay state		On <input checked="" type="checkbox"/>
	Apply changes	

© 2014 Netping East Ltd

Discrete Input-Output

[HOME](#) | [SETUP](#) | [RELAYS](#) | [WATCHDOG](#) | [SCHEDULE 1](#) | [SCHEDULE 2](#) | [SMS TEMPERATURE](#) | [DISCRETE IO](#) | [IR COMMANDS](#) | [LOGIC](#) | [FIRMWARE](#) | [LOG](#)

Parameter	IO 1	IO 2	IO 3	IO 4
Memo				
IO Mode	Input	Input	Input	Input
Filter out short noise pulses (20-10 000ms)	500	500	500	500
Input Logic Level	1 <input checked="" type="checkbox"/>	Output of Logic	1 <input checked="" type="checkbox"/>	1 <input checked="" type="checkbox"/>
Actions on Logic Level Change				
Write to Log	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SNMP Trap on 0 » 1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SNMP Trap on 1 » 0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Output Logic Level				
Logic 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Logic 0	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Single Pulse generation				
Pulse Duration (100-25 500ms, step 100ms)	1000	1000	1000	1000
Start Single Pulse	Pulse	Pulse	Pulse	Pulse
				Apply changes

[ENG] 10.8. [DKSF 53/203.1 IU] IR Commands

It is possible to control a rule of the module «Logic» by issuing an IR command through an external module [IRC-TR v2](#). Before there is a need to record necessary commands from a remote (remotes) into the cells 1..4 of the module [IRC-TR v2](#).

A rule «If ... turn on» initiates reproducing an IR command. The rule «While ... keep turned off» prohibits issuing an IR command. Rules of another type must not be used together with an IR command.

[ENG] 10.9. [DKSF 53/203.1 IU] Examples of Configuring the Module «Logic»

At this page, several simplest examples of configuring the module «Logic» are represented.

It goes without saying, necessary sensors, as well as external management modules, are already connected to NetPing devices and NetPing devices are previously configured for performing their specific tasks.

CONFIGURING A THERMOSTAT

A NetPing device with a connected external temperature sensor allows to implement functions of a thermostat, supporting a specified range of temperatures by turning on/off a device for heating and/or cooling in the automatic mode.

Task: It is necessary to maintain a temperature of 20°C indoors.

Solution: Let us suppose that an electric heater, which warms a certain room, is connected to a controllable socket №1 of a NetPing device. There is an air conditioner in the room, which is managed by an external IR management module IRC-TR v2. For automation of controlling a heater and an air conditioner to maintain a necessary temperature, there is a need to go to the page «LOGIC» of a device web interface:



[HOME](#) | [SETUP](#) | [RELAYS](#) | [WATCHDOG](#) | [SCHEDULE 1](#) | [SCHEDULE 2](#) | [SMS TEMPERATURE](#) | [DISCRETE IO](#) | [IR COMMANDS](#) | **[LOGIC](#)** | [FIRMWARE](#) | [LOG](#)

LOGIC

Logic control is stopped (not active)

1	<input checked="" type="checkbox"/>	On	IO 1	= Logic 1	Switch on	IO 2	Move up	Move down
2	<input checked="" type="checkbox"/>	On	IO 1	= Logic 0	Switch off	IO 2	Move up	Move down
3	<input type="checkbox"/>	While	IO 1	= Logic 1	Keep switched off	IO 1	Move up	Move down
4	<input type="checkbox"/>	While	IO 1	= Logic 1	Keep switched off	IO 1	Move up	Move down
5	<input type="checkbox"/>	While	IO 1	= Logic 1	Keep switched off	IO 1	Move up	Move down
6	<input type="checkbox"/>	While	IO 1	= Logic 1	Keep switched off	IO 1	Move up	Move down
7	<input type="checkbox"/>	While	IO 1	= Logic 1	Keep switched off	IO 1	Move up	Move down
8	<input type="checkbox"/>	While	IO 1	= Logic 1	Keep switched off	IO 1	Move up	Move down

Reset Start Stop Apply changes

There is a need to check checkboxes for first four rules and configure the next settings:

1	<input checked="" type="checkbox"/>	On	TSTAT 1	Above Threshold	Switch off	RELAY 1	Move up	Move down
2	<input checked="" type="checkbox"/>	On	TSTAT 1	Below Threshold	Switch on	RELAY 1	Move up	Move down
3	<input checked="" type="checkbox"/>	On	TSTAT 1	Above Threshold	Switch on	IR 1	Move up	Move down
4	<input checked="" type="checkbox"/>	On	TSTAT 1	Below Threshold	Switch on	IR 2	Move up	Move down

These rules mean that if a temperature in a thermostat 1 (TSTAT1) will exceed a specified one (i.e. above 20°C), an electric heater will be turned off automatically (RELAY 1) and an air conditioner will be turned on the same automatically (IR 1) (rules №1 and №3). To avoid frequent turning on/turning off a heater and an air conditioner, there is a switching hysteresis in a thermostat, which will be described below. If a temperature will fall below a specified value, an air conditioner will be turned off (IR 2) and a heater will be turned on (RELAY 1) (rules №2 and №4).

After setting up the rules, there is a need to click the button «Apply changes».

The next step is a configuration of the module «THERMO(HYDRO)STAT», on the basis of which previously configured rules will work:

THERMO(HYDRO)STAT

	TSTAT 1	TSTAT 2
Sensor	Thermo 1	Thermo 1
Current value, deg.C or % rel.hum.	-	-
Threshold, deg.C or % rel.hum.	20	20
Hysteresis, 1..8 deg.C or % rel.hum.	2	2
Status	Sensor is failed	Sensor is failed

A temperature sensor №3 is used to measure a temperature indoors. In the module «THERMO(HYDRO)STAT» there is a need to configure TSTAT 1 by choosing a sensor №3 from a drop-down list. Then specify a threshold of 20°C and a switching hysteresis of 2°C.

A hysteresis sets a «corridor» around a specified temperature, within which a thermostat does not respond to temperature fluctuations. This function allows to avoid frequent random switching of a heater (a cooler) caused by natural spontaneous fluctuations of a temperature measured by a temperature sensor.

If a current status of a thermostat is «above», then a threshold for switching a status is a specified temperature minus a hysteresis value. And vice versa, if a current status is «below», then a threshold for switching is a specified temperature plus a hysteresis value. As soon as a temperature falls or rises and reaches a threshold value including hysteresis thus leaving the limits of «corridor», a status of a thermostat is changed to the opposite one.

After configuring a thermostat, there is a need to click the button «Apply changes».

Recording, saving and replaying IR commands to control an air conditioner is indicated in the corresponding section of a user guide (works for devices supporting an IR control module IRC-TR v2).

Except indicating a relay as an «output» of a rule, there is a need to indicate that this relay will be used together with a logic module. To do this, there is a need to go to the page «220V MANAGEMENT» of a device web interface and choose a management mode «Logic»:

Control of Relays

[HOME](#) | [SETUP](#) | [RELAYS](#) | [WATCHDOG](#) | [SCHEDULE 1](#) | [SCHEDULE 2](#) | [SMS TEMPERATURE](#) | [DISCRETE IO](#) | [IR COMMANDS](#) | [LOGIC](#) | [FIRMWARE](#) | [LOG](#)

	Relay 1	Relay 2
Memo (up to 30 chars)		
Source of control	Manual On	Manual On
Switch On for short time (5s)	Manual Off	On
Switch Off for short time (5s)	Manual On	Off
Relay state	Watchdog	On
	Schedule	
	Sched+Wdog	
	Logic	
	<input type="button" value="Apply changes"/>	

© 2014 Netping East Ltd

After changing a management mode, there is a need to click the button «Apply changes».

The last step of configuration is starting logic on a corresponding page of a web interface by clicking the button «Start»:

LOGIC

Logic control is stopped (not active)

1	<input checked="" type="checkbox"/>	On	TSTAT 1	Above Threshold	Switch off	RELAY 1	Move up	Move down
2	<input checked="" type="checkbox"/>	On	TSTAT 1	Below Threshold	Switch on	RELAY 1	Move up	Move down
3	<input checked="" type="checkbox"/>	On	TSTAT 1	Above Threshold	Switch on	IR 1	Move up	Move down
4	<input checked="" type="checkbox"/>	On	TSTAT 1	Below Threshold	Switch on	IR 2	Move up	Move down
5	<input type="checkbox"/>	While	IO 1	= Logic 1	Keep switched off	IO 1	Move up	Move down
6	<input type="checkbox"/>	While	IO 1	= Logic 1	Keep switched off	IO 1	Move up	Move down
7	<input type="checkbox"/>	While	IO 1	= Logic 1	Keep switched off	IO 1	Move up	Move down
8	<input type="checkbox"/>	While	IO 1	= Logic 1	Keep switched off	IO 1	Move up	Move down

Reset **Start** Stop Apply changes

EXAMPLE OF WARNING ALARM WHEN A SHOCK SENSOR TRIGGERED

A NetPing device, to which **shock sensor PI-90D** and **siren alarm AC-10** are connected, can perform security functions for remote objects and closets with equipment.

Task: Organising a warning alarm for a remote control of a security guard when breaking a wiring closet with equipment.

Solution: Let us suppose that **shock sensor PI-90D**, which is installed into a closet with equipment, is connected to the IO line №2 of a NetPing device, while **siren alarm AC-10**, which is displayed at a remote control of a security guard, is connected to the Relay 1. To configure NetPing for security measures, there is a need to set the next rules in the module «Logic»:

1	<input checked="" type="checkbox"/>	While	IO 2	= Logic 0	Keep switched on	RELAY 1	Move up	Move down
2	<input checked="" type="checkbox"/>	While	IO 2	= Logic 1	Keep switched off	RELAY 1	Move up	Move down

These rules mean when the **shock sensor PI-90D** (IO 2) triggers, then a **warning alarm AC-10** (RELAY 1) will be activated (rule №1) until a level of an IO line №2 has got a value «logic 1» (rule №2).

After setting up rules, there is a need to click the button «Apply changes».

The next step is a necessity to configure an operation mode of an IO line at the page «INPUT-OUTPUT» of a device web interface. An IO line must work in the mode «input»:

Discrete Input-Output

[HOME](#) | [SETUP](#) | [RELAYS](#) | [WATCHDOG](#) | [SCHEDULE 1](#) | [SCHEDULE 2](#) | [SMS](#)
[TEMPERATURE](#) | [DISCRETE IO](#) | [IR COMMANDS](#) | [LOGIC](#) | [FIRMWARE](#) | [LOG](#)

Parameter	IO 1	IO 2	IO 3	IO 4
Memo				
IO Mode	Input	Input	Input	Input
Filter out short noise pulses (20-10 000ms)	500	500	500	500
Input Logic Level	1 ■	1 ■	1 ■	1 ■
Actions on Logic Level Change				
Write to Log	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SNMP Trap on 0 » 1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SNMP Trap on 1 » 0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Output Logic Level				
Logic 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Logic 0	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Single Pulse generation				
Pulse Duration (100-25 500ms, step 100ms)	1000	1000	1000	1000
Start Single Pulse	Pulse	Pulse	Pulse	Pulse

Apply changes

Besides indicating a relay as an «output» for a rule, there is a need to specify that this relay will be used together with a logic module. To do this, there is a need to go to the page «220V MANAGEMENT» of a device web interface and choose a relay management mode «Logic»:

Control of Relays

[HOME](#) | [SETUP](#) | [RELAYS](#) | [WATCHDOG](#) | [SCHEDULE 1](#) | [SCHEDULE 2](#) | [SMS TEMPERATURE](#) | [DISCRETE IO](#) | [IR COMMANDS](#) | [LOGIC](#) | [FIRMWARE](#) | [LOG](#)

Memo (up to 30 chars)		
Source of control	Manual On	Manual On
Switch On for short time (5s)		On
Switch Off for short time (5s)		Off
Relay state		On ■
	Relay 1 Manual On Manual Off Manual On Watchdog Schedule Sched+Wdog Logic	Relay 2 Manual On On Off On ■ Apply changes

© 2014 Netping East Ltd

After choosing a source of control for a relay, there is a need to click the button «Apply changes».

The last step of configuration is starting logic at the corresponding page of a web interface by clicking the button «Start»:

LOGIC

Logic control is stopped (not active)

1	<input checked="" type="checkbox"/>	On	IO 2	= Logic 0	Switch on	RELAY 1	Move up	Move down
2	<input checked="" type="checkbox"/>	On	IO 2	= Logic 1	Switch off	RELAY 1	Move up	Move down
3	<input type="checkbox"/>	While	IO 1	= Logic 1	Keep switched off	IO 1	Move up	Move down
4	<input type="checkbox"/>	While	IO 1	= Logic 1	Keep switched off	IO 1	Move up	Move down
5	<input type="checkbox"/>	While	IO 1	= Logic 1	Keep switched off	IO 1	Move up	Move down
6	<input type="checkbox"/>	While	IO 1	= Logic 1	Keep switched off	IO 1	Move up	Move down
7	<input type="checkbox"/>	While	IO 1	= Logic 1	Keep switched off	IO 1	Move up	Move down
8	<input type="checkbox"/>	While	IO 1	= Logic 1	Keep switched off	IO 1	Move up	Move down

NetPing server room environmental monitoring solutions and IP power distribution units.

[ENG] 11. [DKSF 53/203.1 IU] Working with the Module «Watchdog»

[ENG] 11.1. [DKSF 53/203.1 IU] What Is «Watchdog» and How to Configure It?

«Watchdog» is a specific operating mode of a relay channel within which indicated addresses are constantly requested by ping (ICMP Echo) with a certain frequency. If there is no response, a device, which is connected to a socket of a power supply channel, will reboot.

If specified IP addresses are not within a range of IP subnetwork of a device, there is a need to indicate a gateway address to the external network at the page «SETUP» of a device web interface.

To configure the module «Watchdog», there is a need to go to the page «WATCHDOG» of a device web interface:

Watchdog

[HOME](#) | [SETUP](#) | [E-MAIL](#) | [RELAYS](#) | WATCHDOG | [SCHEDULE 1](#) | [SCHEDULE 2](#) | [SMS](#)
[TEMPERATURE](#) | [HUMIDITY](#) | [DISCRETE IO](#) | [IR COMMANDS](#) | [LOGIC](#) | [FIRMWARE](#) | [LOG](#)

Parameter	Channel 1	Channel 2
Memo (up to 30 chars)	w-dog is detached from relay	w-dog is detached from relay
Polling of Address A,B,C	A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/>	A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/>
Address A		
Address B		
Address C		
Reset Counter (cleared on firmware reboot)	0	0
Ping Polling Period, s (10-300)	15	15
Ping Timeout, ms (600-9000)	1000	1000
Max Ping Repeats after Timeout	8	8
Reset Duration, s (1-900)	12	12
Ping Polling Pause After Reset, s (1-3600)	15	15
Limit Number of Reset Retries (0 off, 1-255)	0	0
Reset Polarity	Switch Relay Off ▼	Switch Relay Off ▼
Reset Condition Logic		
No reply from any of Address A,B,C	<input type="radio"/>	<input type="radio"/>
No reply from all of Address A,B,C	<input checked="" type="radio"/>	<input checked="" type="radio"/>
No reply from Address A and from one of B,C	<input type="radio"/>	<input type="radio"/>
No reply from Address A, but B or C replies	<input type="radio"/>	<input type="radio"/>

where:

What is connected (memo, up to 30 characters) – a description of a relay which is entered into the field «Memo» at the page «RELAYS» of a device web interface.

Polling of Address A, B, C – is a set of check boxes which allow to specify addresses for polling individually. On default: checkboxes are not checked.

If no checkbox is checked or IP addresses for checked checkboxes are not indicated, polling will not be performed, therefore, the mode «Watchdog» will be disabled.

AddressA (B, C) – is a field to view or change addresses for polling. It is possible to indicate an IP address as well as a domain name. It is possible to configure up to three addresses. An empty field disables polling. On default: address is not specified.

Reset counter (cleared on firmware reboot) – is an informational field which shows how many times a channel has been rebooted as a result of actions of the module «Watchdog». A counter does not include manual reboots. A counter is reset when a power supply is cut off NetPing device.

Ping Polling Period, s (10-300) – is a field used to specify a period of time, within which repeated pings are sent to the indicated IP addresses after receiving a response from them. On default: 10 s

Ping Timeout, ms (600-9000) – is a field used to specify a timeout before repeating ping. A value must exceed a usual time needed to respond to ping for the network, with a certain reserve to avoid false triggering of the module «Watchdog». On default: 1000 ms

Max Ping Repeats after Timeout - is a field used to specify a maximum number of attempts to receive a response to «ping». If a number of attempts is over, an IP address is considered to be «silent». It is desirable to have a period of polling repeat longer than ping timeout multiplied by a maximum number of attempts. If this condition is not fulfilled, then a new cycle of polling will be postponed until an indicated amount of attempts is over. On default: 8

Reset Duration, s (1-900) – is a field for setting up time for which a device connected to a power supply outlet is cut off power to initiate reset and reboot. On default: 12 s.

Ping Polling Pause after Reset, s (1-3600) – is a field for setting up time for which polling is paused after turning on a power supply outlet. The pause is necessary for a device to load, initialize and restore the functioning of its network interfaces. Otherwise, it is possible for the mode «Watchdog» to trigger endlessly. On default: 15 c

Limit Number of Reset Retries (0 off, 1-255) – is a field for setting a number of consequent unsuccessful resets, after which the functioning of the load is not restored and there is still no response to ping. This situation may happen if the load stably fails, and its work is impossible to be restored by power switching on-switching off. When the limit is reached, resets are stopped but the periodic pinging is continued. Resets are unlocked when a response to ping is received. Stopping of resets and restoring of a regular operation order after a response to ping are registered in a log. The value «0» of this parameter disables the limit. On default: 0

Reset Polarity – is a field which allows to indicate what exactly will be done to reset a connected load: «Relay Off» or «Relay On» for an output power supply outlet. On default: Relay Off

Reset Condition Logic – determines a condition within which a reset of a device connected to a power supply channel will be done.

No reply from any of address A, B, C – a connected device will be reloaded if at least one of addresses have not responded.

No reply from all of addresses A, B, C – a connected device will be reloaded only if all indicated addresses for polling have not responded.

No reply from address A and from one of B or C – a connected device will be reloaded if an address A has not responded together with either address B or C, or both B and C.

No reply from address A, but B or C replies – a connected device will be reloaded only if an address A has not responded, but address B or address C has responded. I.e. if all addresses do not respond, a reset of a connected device will not be done.

After setting all necessary parameters, click the button «Apply changes» for a device to execute a command. If any parameter will be set incorrectly, it will be highlighted with red colour:

Address C		
Reset Counter (cleared on firmware reboot)	0	0
Ping Polling Period, s (10-300)	15	15
Ping Timeout, ms (600-9000)	110	1000
Max Ping Repeats after Timeout	8	8
Reset Duration, s (1-900)	12	12
Ping Polling Pause After Reset, s (1-3600)	15	15

There is a need to correct a value of a parameter and click the button «Apply changes» once more.

In order to understand the process of the "Watchdog" module configuration better read the article «AUTOMATIC RELOADING OF A HANGING ROUTER THAT IS CONNECTED TO NETPING 2/PWR-220 V3/ETH POWER DISTRIBUTION UNIT».

[ENG] 12. [DKSF 53/203.1 IU] Working with the Module «Schedule»

[ENG] 12.1. [DKSF 53/203.1 IU] What Is «Schedule», and How to Configure It?

The module «Schedule» allows you to set a schedule according to which a relay will be switched on and switched off.

To use the module «Schedule», there is a need to switch a relay to the mode «Schedule» or «Schedule+Watchdog» on the page «RELAYS» of a device web interface. To configure the module «Schedule», there is a need to go to the page «SCHEDULE 1» or «SCHEDULE 2» of a device web interface:

[HOME](#) | [SETUP](#) | [E-MAIL](#) | [RELAYS](#) | [WATCHDOG](#) | [SCHEDULE 1](#) | [SCHEDULE 2](#) | [SMS](#)
[TEMPERATURE](#) | [HUMIDITY](#) | [DISCRETE IO](#) | [IR COMMANDS](#) | [LOGIC](#) | [FIRMWARE](#) | [LOG](#)

STATUS

Local Clock	05:49:40, Thu, 23 Jan 2020
Local Time Shift	UTC+3
NTP Status	NTP Server address not set or DNS error

DEFAULT RELAY STATE

Relay State if Local Time is not set properly: Permanent Off ▼

WEEKLY SCHEDULE(FOR RELAY 1)

	On	Off	On	Off	On	Off	On	Off	Same as prev. day
Mon	-	-	-	-	-	-	-	-	
Tue	-	-	-	-	-	-	-	-	<input type="checkbox"/>
Wed	-	-	-	-	-	-	-	-	<input type="checkbox"/>
Thu	-	-	-	-	-	-	-	-	<input type="checkbox"/>
Fri	-	-	-	-	-	-	-	-	<input type="checkbox"/>
Sat	-	-	-	-	-	-	-	-	<input type="checkbox"/>
Sun	-	-	-	-	-	-	-	-	<input type="checkbox"/>
Aux 1	-	-	-	-	-	-	-	-	
Aux 2	-	-	-	-	-	-	-	-	
Aux 3	-	-	-	-	-	-	-	-	

Use time format hh:mm (24h!)

HOLIDAY'S SUBSTITUTION

Date	-	-	-	-	-	-	-	-	-
Substitute	Mon ▼	Mon ▼	Mon ▼	Mon ▼	Mon ▼	Mon ▼	Mon ▼	Mon ▼	Mon ▼

Use date format dd.mm

STATUS

Local Clock – shows a current time, day of the week and a date.

Local Time Shift – is a timezone. It is configured on the page «SETUP» of a device web interface.

NTP Status – displays a status of time synchronization via an NTP protocol. Addresses of NTP servers are configured on the page «SETUP» of a device web interface.

WEEKLY SCHEDULE

In the section «WEEKLY SCHEDULE (FOR RELAY1)» a schedule is specified for controlling a relay. For each day of the week, it is possible to configure four intervals of switching a relay on/off.

An interval begins at the time of switching a relay on (a column «On») and ends at the time of switching it off (a column «Off»). Time is specified in the format «hh:mm» in the range 00:00 – 23:59. Time must increase from left to right: in an interval, a time of switching on must take place before the time of switching off, and the time of switching on in the interval 2 must take place after the time of switching off in the interval 1. The cells can be left empty, in this case, the next not empty cell will work. For example, it is acceptable to switch on on «MON» and switch off on «FRI».

A column «Same as prev. day» allows applying of the schedule of a previous day to a current day in one click, thus simplifying a configuration of a schedule. Check a corresponding checkbox to apply a schedule of a previous day to a current day.

Action time («On» or «Off») that has been executed the last, is displayed on the page in bold, which allows determining what actions and in what interval will be performed quickly.

After setting all necessary parameters, there is a need to click the button «Apply changes».

HOLIDAYS SUBSTITUTION

The lines «Aux 1», «Aux 2», «Aux 3» allow setting a special schedule for holidays. These schedules are linked to holidays in the section «HOLIDAYS' SUBSTITUTION».

The section «HOLIDAYS' SUBSTITUTION» allows setting a special schedule for holidays or link a schedule of any work day to a holiday. It is possible to save up to eight holidays in a memory of a device.

In the line «Date» a date of a holiday is indicated in the format «dd.mm» in the range 01.01 – 31.12.

in the line «Substitute» a schedule is indicated that will be used on this day. A drop-down list allows choosing the next variants: «MON», «TUE», «WED», «THU», «FRI», «SAT», «SUN», «AUX 1», «AUX 2», «AUX 3».

After setting all necessary parameters click the button «Apply changes».

DEFAULT RELAY STATE

A relay state when the setting of the clock failed determines a reaction of a relay in the moment of a time reset in the built-in clock of a device. The next modes are possible: «Permanent On», «Permanent Off», «Ignore Failure».

This setting is activated when the clock is reset to the date before 2000. If the clock is reset to the date after 2000, then a device will not use this setting.

Permanent On – when resetting the clock, a relay is always switched on regardless a configured schedule.

Permanent Off – when resetting the clock, a relay is always switched off regardless a configured schedule.

Ignore failure – when resetting the clock, a relay continues to work on the basis of a configured schedule.

After setting all necessary parameters click the button «Apply changes».

NetPing server room environmental monitoring solutions and IP power distribution units.

[ENG] 13. [DKSF 53/203.1 IU] Support of an SNMP Protocol by a Device

[ENG] 13.1. [DKSF 53/203.1 IU] Can I Control a Device Using SNMP?

The devices [NetPing 2 IP PDU ETH 53R14](#) and [NetPing 2 IP PDU GSM3G 203R15](#) support configuring parameters and control via an SNMP v1 protocol.

More detailed information about an SNMP protocol can be read on the next links:

- https://en.wikipedia.org/wiki/Simple_Network_Management_Protocol
- <http://www.snmp.com/>

OID that are supported by the devices can be found in the MIB files [DKSF_52.10.x_ MB.mib](#), [DKSF_202.10.x_ MB.mib](#) on the pages of a description of devices in the section «Documentation and Files»:

- [NetPing 2 IP PDU ETH 53R14](#)
- [NetPing 2 IP PDU GSM3G 203R15](#)

Devices support:

- Reading OID using Get, Get-Next requests via an SNMP v1 protocol;
- Setting the OID values using the command Set via an SNMP v1 protocol;
- Sending TRAP notifications on the events

[ENG] 13.2. [DKSF 53/203.1 IU] Configuration of Sending SNMP TRAP Notifications

To access a device via an SNMP v1 protocol, there is a need to configure the next parameters using a device web interface:

- SNMP Community for Read – is a password that is necessary to indicate in any request for reading parameters via an SNMP protocol. It is specified in the section «ACCESS RESTRICTIONS» on the page «SETUP» of a device web interface;
- SNMP Community for Write – is a password that is necessary to indicate in any request for writing parameters via an SNMP protocol. It is specified in the section «ACCESS RESTRICTIONS» on the page «SETUP» of a device web interface.

ACCESS RESTRICTIONS

Username	visor52
Password	*****
SNMP Community for Read	ping52
SNMP Community for Write	ping52
IP Filter (access granted for this subnet)	0.0.0.0
IP Filter Netmask (0.0.0.0 - disable filter)	0.0.0.0

Apply Changes

To send TRAP notifications by a device via an SNMP v1 protocol, there is a need to configure the next parameters using a web interface:

- SNMP Trap Destination#1 – is an IP address, where TRAP notifications will be sent. It is specified on the page «SETUP» of a device web interface;
- SNMP Trap Destination#2 – is the second (auxiliary) IP address, where TRAP notifications will be sent. It is specified on the page «SETUP» of a device web interface;

SNMP TRAP

SNMP Trap Destination #1	
SNMP Trap Destination #2	

Apply Changes

- Front (level change 0->1) – is a checkbox that allows sending SNMP TRAP notifications when a logic level of an IO line in the mode «Input», «Output», «Output of Logic» is changed from low to high (signal front). It is configured by the button «Setup» on the page «DISCRETE IO» of a device web interface;
- Decay (level change 1->0) – is a checkbox that allows sending SNMP TRAP notifications when a logic level of an IO line in the mode «Input», «Output», «Output of Logic» is changed from high to low (signal decay). It is configured by the button «Setup» on the page «DISCRETE IO» of a device web interface;

NOTIFICATIONS FOR IO LINE 3

Event	Log	Syslog	E-mail	SMS	SNMP Trap
Front (level change 0->1)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Decay (level change 1->0)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Include in Summary Report	.	.	<input type="checkbox"/>	<input type="checkbox"/>	.

Logic level

Logic 1	
Logic 0	

Legend

Cancel Save

- Temperature is above safe range – is a checkbox that allows sending SNMP TRAP notifications when the upper threshold of a temperature indicated for the sensor is exceeded. It is configured by the button «Setup» on the page «TEMPERATURE» of a device web interface;

interface;

- Temperature is in safe range – is a checkbox that allows sending SNMP TRAP notifications if a temperature on the temperature sensor is back to a specified range. It is configured by the button «Setup» on the page «TEMPERATURE» of a device web interface;
- Temperature is below safe range – is a checkbox that allows sending SNMP TRAP notifications when a temperature falls below a threshold indicated for the sensor. It is configured by the button «Setup» on the page «TEMPERATURE» of a device web interface;
- Sensor fault – is a checkbox that allows sending SNMP TRAP notifications when a sensor fails, for example, when it is faulty. It is configured by the button «Setup» on the page «TEMPERATURE» of a device web interface;

NOTIFICATIONS FOR TEMPERATURE SENSOR 7

Event	Log	Syslog	E-mail	SMS	SNMP Trap
Temperature is above safe range	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Temperature is in safe range	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Temperature is below safe range	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sensor fault	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Include in Summary Report	.	.	<input type="checkbox"/>	<input type="checkbox"/>	.

- Humidity is above Safe range – is a checkbox that allows sending SNMP TRAP notifications when the value of the upper threshold of a normal humidity range specified for the sensor is exceeded. It is configured by the button «Setup» on the page «HUMIDITY» of a device web interface;
- Humidity is in Safe range – is a checkbox that allows sending SNMP TRAP notifications if a relative humidity at the humidity sensor is back to a specified range. It is configured by the button «Setup» on the page «HUMIDITY» of a device web interface;
- Humidity is below Safe range – is a checkbox that allows sending SNMP TRAP notifications when the value of the bottom threshold of a normal humidity range specified for the sensor is decreased. It is configured by the button «Setup» on the page «HUMIDITY» of a device web interface;
- Sensor Fault – is a checkbox that allows sending SNMP TRAP notifications when the sensor does not operate because of failure, etc. It is configured by the button «Setup» on the page «HUMIDITY» of a device web interface;

NOTIFICATIONS FOR RELATIVE HUMIDITY SENSOR

Event	Log	Syslog	E-mail	SMS	SNMP Trap
Humidity is above Safe range	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Humidity is in Safe range	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Humidity is below Safe range	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sensor Fault	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Include in Summary Report	.	.	<input type="checkbox"/>	<input type="checkbox"/>	.

-
- Switching On/Off – is a checkbox that allows sending SNMP TRAP notifications when a relay is switched to the status «Off» or «On». It is configured by the button «Setup» on the page «RELAYS» of a device web interface;
- Change of Source of Control – is a checkbox that allows sending SNMP TRAP notifications when the management mode of a relay is changed («Manual On», «Manual Off», «Watchdog», «Schedule», «Schedule+Watchdog», «Logic»). It is configured by the button «Setup» on the page «RELAYS» of a device web interface;
- Reset (Flip for Short Period) – is a checkbox that allows sending SNMP TRAP notifications during short-term switching on/off a relay. It is configured by the button «Setup» on the page «RELAYS» of a device web interface;
- Use common snmpTrapOID for all events and Use common snmpTrapOID for all Sensor Numbers – are checkboxes that allow sending SNMP TRAP notifications for all events from all built-in relays in a single snmpTrapOID notification or allow dividing events and numbers of relay channels among different snmpTrapOID notifications, up to totally individual ones. It allows receiving individual SNMP Trap

notifications for processing them in monitoring systems. They are configured by the button «Setup» on the page «RELAYS» of a device web interface.

NOTIFICATIONS FOR RELAY 1

Event	Log	Syslog	E-mail	SMS	SNMP Trap
Switching On/Off	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Change of Source of Control	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Reset (Flip for Short period)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Include in Summary Report	.	.	<input type="checkbox"/>	<input type="checkbox"/>	.
Use common snmpTrapOID for all Events					<input type="checkbox"/>
Use common snmpTrapOID for all Sensor Numbers					<input type="checkbox"/>

[ENG] 13.3. [DKSF 53/203.1 IU] What OIDs a Device Supports?

A description of OIDs, supported by a device is represented in the table:

OID	Имя	Тип	Доступ	Описание
RFC1213				
.1.3.6.1.2.1.1.1.0	sysDescr	OctetString	READ	A textual description of a device with the firmware version
.1.3.6.1.2.1.1.2.0	sysObjectID	OID	READ	A number of a branch with parameters of a device is always «.1.3.6.1.4.1.25728»
.1.3.6.1.2.1.1.3.0	sysUpTime	TimeTicks	READ	Time from the moment of the last turning on a device
.1.3.6.1.2.1.1.4.0	sysContact	OctetString	READ/WRITE	Contacts, usually an administrator's e-mail
.1.3.6.1.2.1.1.5.0	sysName	OctetString	READ/WRITE	Domain name of a device
.1.3.6.1.2.1.1.6.0	sysLocation	OctetString	READ/WRITE	Location of a device
.1.3.6.1.2.1.1.7.0	sysServices	Integer	READ	Binary representation of this OID is a set of supported services. Always «72», a device plays a role of a final host
.1.3.6.1.2.1.2.1.0	ifNumber	Integer	READ	The number of network interfaces of a device
.1.3.6.1.2.1.2.2.1.1	ifIndex	Integer	READ	An interface index is a unique identification number, connected to physical or logical interface. For the majority of software ifIndex is an interface name
.1.3.6.1.2.1.2.2.1.2	ifDescr	OctetString	READ	A line containing the information about an interface. A line contains a manufacturer's name, a model of a device and a hardware interface version
.1.3.6.1.2.1.2.2.1.3	ifType	Integer	READ	A type of a network interface of a device
.1.3.6.1.2.1.2.2.1.4	ifMtu	Integer	READ	Package size via a network interface. Always «1514»
.1.3.6.1.2.1.2.2.1.5	ifSpeed	Gauge	READ	Network interface speed. Always «100000000»
.1.3.6.1.2.1.2.2.1.6	ifPhysAddress	Physaddress	READ	MAC address of a device
NetPing MIB				
.1.3.6.1.4.1.25728.90.1.0	npTrapEmailTo	OctetString	READ	Variable contained in traps. E-mail, to which notifications are sent using a Netping mailing service
.1.3.6.1.4.1.25728.911.1.0	npSoftReboot	Integer	READ/WRITE	Software reboot of a device when writing the value «1» (an analogue for a reboot of a device through a web interface)
.1.3.6.1.4.1.25728.911.2.0	npResetStack	Integer	READ/WRITE	Software reboot of a device when writing the value «1».
.1.3.6.1.4.1.25728.911.3.0	npForceReboot	Integer	READ/WRITE	Immediate forced reboot of a device when writing the value «1» (a processor reset as wehn switching a power on)
.1.3.6.1.4.1.25728.3800.1.1.0	npGsmFailed	Integer	READ	A status of a built-in GSM modem: 0 — OK 1 — Failed (no connection) 2 — FatalError (unrecoverable error, modem is locked)
.1.3.6.1.4.1.25728.3800.1.2.0	npGsmRegistration	Integer	READ	Connection status to GSM network 0 — Impossible 1 — HomeNetwork 2 — Searching 3 — Denied 4 — Unknown 5 — Roaming 255 — InfoUpdate
.1.3.6.1.4.1.25728.3800.1.3.0	npGsmStrength	Integer	READ	GSM signal strength: 0...31 = 0% ... 100% 99 — Unknown 255 — Updating info
.1.3.6.1.4.1.25728.3900.1.1.0	npBatteryPok	Integer	READ	Device power supply source 0 — Battery power 1 — 220V network power

NetPing server room environmental monitoring solutions and IP power distribution units.

.1.3.6.1.4.1.25728.3900.1.2.0	npBatteryLevel	Integer	READ	Battery level, % (if a device is powered from battery)
.1.3.6.1.4.1.25728.3900.1.3.0	npBatteryChg	Integer	READ	Battery status: 0 — Battery charging suspended 1 — Battery fast charging
.1.3.6.1.4.1.25728.5800.3.1.1.n	npPwrChannelN.n	Integer	READ	Relay index, where n – is a relay number
.1.3.6.1.4.1.25728.5800.3.1.2.n	npPwrStartReset.n	Integer	READ/WRITE	Write «1» to reset. Relay n, where n – is a relay number. When reading: 0 – Common mode 1 – Reset 2 – Reboot
.1.3.6.1.4.1.25728.5800.3.1.3.n	npPwrManualMode.n	Integer	READ/WRITE	Operation mode of a relay n, where n – is a relay number.: 0 – Switching off – a manual mode 1 – Switching on – a manual mode 2 – «Watchdog» mode 3 – «Schedule» mode 4 – «Schedule+Watchdog» mode 5 – «Logic» mode 6 – «Schedule+Logic» mode
.1.3.6.1.4.1.25728.5800.3.1.4.n	npPwrResetsCounter.n	Integer	READ/WRITE	Reboot counter in the «Watchdog» mode. Relay n, where n – is a relay number. Write «0» for forced zeroing
.1.3.6.1.4.1.25728.5800.3.1.5.n	npPwrRepeatingResetsCounter.n	Integer	READ	Counter of continuous resets, when a relay n works in the «Watchdog» mode , where n – is a relay number
.1.3.6.1.4.1.25728.5800.3.1.6.n	npPwrMemo.n	OctetString	READ	Relay n memo, where n – is a relay number
.1.3.6.1.4.1.25728.5800.3.1.14.n	npPwrRelayFlip.n	Integer	READ/WRITE	This OID allows to switch a relay n from the status «Switched off» to a status «Switched on» and vice versa, where n – is a relay number. Write «-1» to change a relay status. A relay must be set to one of the two modes: «Manual on» or «Manual off»
.1.3.6.1.4.1.25728.5800.3.1.15.n	npPwrRelayState.n	Integer	READ	Current relay status, a status is read regardless the management mode, where n – is a relay number: 0 – relay is switched off 1 – relay is switched on
.1.3.6.1.4.1.25728.5500.5.1.1.n	nRelayN.n	Integer	READ	Left for compatibility Relay index, where n – is a relay number
.1.3.6.1.4.1.25728.5500.5.1.2.n	npRelayMode.n	Integer	READ/WRITE	Left for compatibility. Operation mode of a relay n, where n – is a relay number: 0 – Switching off – manual mode 1 – Switching on – manual mode 2 – «Watchdog» mode 3 – «Schedule» mode 4 – «Schedule+Watchdog» mode 5 – «Logic» mode 6 – «Schedule+Logic» mode
.1.3.6.1.4.1.25728.5500.5.1.3.n	npRelayStartReset.n	Integer	READ/WRITE	Left for compatibility. OID for forced short-term switching off a relay. Write a number «1» to switch off the channel for 15 seconds
.1.3.6.1.4.1.25728.5500.5.1.6.n	npRelayMemo.n	OctetString	READ	Left for compatibility. Relay n memo, where n – is a relay number

NetPing server room environmental monitoring solutions and IP power distribution units.

.1.3.6.1.4.1.25728.5500.5.1.14.n	npRelayFlip.n	Integer	READ/WRITE	Left for compatibility. This OID allows switching a relay n from a status «Off» to a status «On» and vice versa, where n – is a relay number. Write «-1» to change a relay status. A relay must be set to one of two modes: «Manual on» or «Manual off»
	npRelayState.n	Integer	READ	Left for compatibility. Current relay status, where n – is a relay number: 0 – Relay is switched off 1 – Relay is switched on
.1.3.6.1.4.1.25728.7900.1.1.0	npIrPlayCmd	Integer	READ/WRITE	Write a number of an IR command to send an IR
.1.3.6.1.4.1.25728.7900.1.2.0	npIrReset	Integer	READ/WRITE	Write «1» to reset an IR transceiver Indicate an IR command and check an IR status after a reset
.1.3.6.1.4.1.25728.7900.1.3.0	npIrStatus	Integer	READ	IR transceiver status. The following statuses are available: commandCompleted (0) - command completed. A team that does not require any process to execute protocolError (1) - invalid command code, or command not accepted commandAccepted (2) - command accepted, execution started. After the completion of the command, the status does not change, since there can no longer be failures in this process. Wait about 0.5 seconds before sending the next command. errorUnknown (16) - unknown error errorBadNumber (17) - invalid command parameter errorEmptyRecord (18) - attempt to play an unwritten cell errorFlashChip (19) - crash or failure of the memory chip inside the IRC-TR v2 IR expansion module errorTimeout (20) - no response from IRC-TR v2 expansion module errorExtBusBusy (21) - the external i2c bus is busy, it is impossible to communicate with the IRC-TR v2 IR expansion module (for example, when the bus is short-circuited)
.1.3.6.1.4.1.25728.8400.2.2.0	npRelHumSensorValueH	Integer	READ	Relative humidity value, %
.1.3.6.1.4.1.25728.8400.2.3.0	npRelHumSensorStatus	Integer	READ	Humidity sensor status: 0 – Norm 1 – Failure or a sensor is not connected
.1.3.6.1.4.1.25728.8400.2.4.0	npRelHumSensorValueT	Integer	READ	Temperature sensor, °C
.1.3.6.1.4.1.25728.8400.2.5.0	npRelHumSensorStatusH	Integer	READ	Humidity sensor status: 0 – Sensor is faulty 1 – Readings of a sensor are below normal 2 – Readings of a sensor are normal 3 – Readings of a sensor are above normal
.1.3.6.1.4.1.25728.8400.2.7.0	npRelHumSafeRangeHigh	Integer	READ	Top threshold of a safe range for a humidity sensor
.1.3.6.1.4.1.25728.8400.2.8.0	npRelHumSafeRangeLow	Integer	READ	Bottom threshold of a safe range for a humidity sensor
.1.3.6.1.4.1.25728.8400.2.9.0	npRelHumSensorValueT100	Integer32	READ	Readings of a temperature sensor, multiplied by 100. It is used to take readings of a sensor with tenths and hundredths of a degree of Celcius. Divide this value by 100, to get a current temperature
.1.3.6.1.4.1.25728.8800.1.1.1.n	npThermoSensorN.n	Integer	READ	A temperature sensor identifier, a number from 1 to 8 inclusive
.1.3.6.1.4.1.25728.8800.1.1.2.n	npThermoValue.n	Integer	READ	Current temperature on a temperature sensor, degrees C where: n – is a number of a sensor, a number from 1 to 8 inclusive

NetPing server room environmental monitoring solutions and IP power distribution units.

.1.3.6.1.4.1.25728.8800.1.1.3.n	npThermoStatus.n	Integer	READ	Temperature sensor status: 0 – Failure or is not connected 1 – Below normal 2 – Normal 3 – Above normal where: n – is a number of a sensor, a number from 1 to 8 inclusive.
.1.3.6.1.4.1.25728.8800.1.1.4.n	npThermoLow.n	Integer	READ	Top threshold of a safe range for a temperature sensor, where: n – is a number of a sensor, a number from 1 to 8 inclusive
.1.3.6.1.4.1.25728.8800.1.1.5.n	npThermoHigh.n	Integer	READ	Bottom threshold of a safe range for a temperature sensor where: n – is a number of a sensor, a number from 1 to 8 inclusive
.1.3.6.1.4.1.25728.8800.1.1.6.n	npThermoMemo.n	OctetString	READ	Memo for a temperature sensor where: n – is a number of a sensor, a number from 1 to 8 inclusive
.1.3.6.1.4.1.25728.8900.1.1.1.n	npIoLineN.n	Integer	READ	IO Line number
.1.3.6.1.4.1.25728.8900.1.1.2.n	npIoLevelIn.n	Integer	READ	A current status of a line in the «input», «output» and «logic output» mode where: n – is a line number, a number from 1 to 8 inclusive
.1.3.6.1.4.1.25728.8900.1.1.3.n	npIoLevelOut.n	Integer	READ/WRITE	A status of a line in the «output» mode. where: n – is a line number, a number from 1 to 8 inclusive The same way this OID allows switching a status of an IO line from a status «0» to a status «1» and vice versa. To change a status of an IO line, write «-1»
.1.3.6.1.4.1.25728.8900.1.1.6.n	npIoMemo.n	OctetString	READ	Memo (a brief description for an IO line) where: n – is a number of a line, a number from 1 to 8 inclusive
.1.3.6.1.4.1.25728.8900.1.1.9.n	npIoPulseCounter.n	Counter32	READ/WRITE	Pulse counter at an IO line. It is counted by a positive front of a pulse after filtering short noise pulses. Write «0» for forced zeroing. It is also zeroed when a power supply is switched off where: n – is a line number, a number from 1 to 8 inclusive
.1.3.6.1.4.1.25728.8900.1.1.12.n	npIoSinglePulseDuration.n	Integer	READ/WRITE	Duration of one pulse at an output of an IO line (acceptable values are from 100 ms to 25500 ms, with a step of 100 ms) where: n – is a line number, a number from 1 to 8 inclusive
.1.3.6.1.4.1.25728.8900.1.1.13.n	npIoSinglePulseStart.n	Integer	READ/WRITE	To send a single pulse to an IO line output, write «1». A duration of a pulse is indicated by a variable npIoSinglePulseDuration.n where: n – is a line number, a number from 1 to 8 inclusive

[ENG] 13.4. [DKSF 53/203.1 IU] SNMP TRAP Support

A formal description of SNMP TRAP notifications can be found in the MIB files `DKSF_53.1.x_MB.mib`, `DKSF_203.1.x_MB.mib` that are applied to the firmware of devices [NetPing 2 IP PDU ETH 53R14](#) and [NetPing 2 IP PDU GSM3G 203R15](#). It is possible to download them from the pages of a site with a description of devices in the section «Documentation and Files». An SNMP TRAP notification is sent in an SNMP v1 format while the description in the MIB files has a format SNMP v2c.

An unambiguous mutual correspondence of identification of SNMP TRAP notifications for v1 and v2c is described in RFC3584 «Coexistence between Version 1, Version 2, and Version 3 of the Internet-standard Network Management Framework».

Usually, software applications for processing SNMP notifications convert between two formats without difficulties.

To send SNMP TRAP notifications, there is a need to:

- specify an IP address for sending SNMP TRAP on the page «SETUP» of a device web interface;
- allow sending SNMP TRAP notifications by switching on corresponding checkboxes, more detailed information is in the section «[\[ENG\] 13.2. \[DKSF 53/203.1 IU\] Configuration of Sending SNMP TRAP Notifications](#)»

SNMP TRAP WHEN CHANGING A LEVEL ON AN IO LINE IN THE «OUTPUT» MODE

Identification npIoTrap

SNMP v1 enterprise	.1.3.6.1.4.1.25728.8900.2
SNMP v1 generic-trap	enterpriseSpecific(6)
SNMP v1 specific-trap	1
SNMP v2 SNMPTrapOID	.1.3.6.1.4.1.25728.8900.2.0.1

Variables in the set of npIoTrap (varbind list)

OID	Data Type	Description
.1.3.6.1.4.1.25728.8900.2.1.0	Integer	A number of an IO line (starting from «1»), changing which caused the sending of a TRAP notification
.1.3.6.1.4.1.25728.8900.2.2.0	Integer	Value of a logic level of an IO line («0» or «1»)
.1.3.6.1.4.1.25728.8900.2.6.0	OctetString	Memo (textual description of a line, encoding win1251)

SNMP TRAP WHEN A STATUS OF A TEMPERATURE SENSOR IS CHANGED

npThermoTrap identification

SNMP v1 enterprise	.1.3.6.1.4.1.25728.8800.2
SNMP v1 generic-trap	enterpriseSpecific(6)
SNMP v1 specific-trap	1
SNMP v2 SNMPTrapOID	.1.3.6.1.4.1.25728.8800.2.0.1

Variables included into npThermoTrap (varbind list)

OID	Data Type	Description
.1.3.6.1.4.1.25728.8800.2.1.0	Integer	Number of a sensor (1..8), changing a status of which caused the sending of a TRAP notification
.1.3.6.1.4.1.25728.8800.2.2.0	Integer	A current temperature value, °C

.1.3.6.1.4.1.25728.8800.2.3.0	Integer	Sensor status: 0 – sensor failed or is disconnected 1 – temperature is below normal 2 – temperature is normal 3 – temperature is above normal
.1.3.6.1.4.1.25728.8800.2.4.0	Integer	Bottom threshold of a norm, °C
.1.3.6.1.4.1.25728.8800.2.5.0	Integer	Top threshold of a norm, °C
.1.3.6.1.4.1.25728.8800.2.6.0	Octet String	Memo (a textual description of an installation place of a temperature sensor, encoding win1251)

SNMP TRAP WHEN CHANGING A STATUS OF A HUMIDITY SENSOR

npRelHumTrap identification

SNMP v1 enterprise	.1.3.6.1.4.1.25728.8400.9
SNMP v1 generic-trap	enterpriseSpecific(6)
SNMP v1 specific-trap	1
SNMP v2 snmpTrapOID	.1.3.6.1.4.1.25728.8400.9.0.1

Variables included into npRelHumTrap (varbind list)

OID	Data Type	Description
.1.3.6.1.4.1.25728.8400.2.5.0	Integer	Status of a humidity sensor: 0 – Sensor failed 1 – Readings of a sensor are below normal level 2 – Readings of a sensor are normal 3 – Readings of a sensor are above normal
.1.3.6.1.4.1.25728.8400.2.2.0	Integer	Relative humidity value, %.
.1.3.6.1.4.1.25728.8400.2.7.0	Integer	Top threshold of a range of normal values for a humidity sensor.
.1.3.6.1.4.1.25728.8400.2.8.0	Integer	Bottom threshold of a range of normal values for a humidity sensor.

SNMP TRAP WHEN CHANGING A RELAY STATUS

npRelayTrap identification

SNMP v2 snmpTrapOID	.1.3.6.1.4.1.25728.5500.6
---------------------	---------------------------

snmpTrapOID npRelayTrap (SNMP TRAP notifications when changing a relay status)

OID	Description
.1.3.6.1.4.1.25728.5500.6.100.n	A relay is set to the status «Switched off», where n is a relay channel
.1.3.6.1.4.1.25728.5500.6.101.n	A relay is switched to the status «Switched on», where n is a relay channel
.1.3.6.1.4.1.25728.5500.6.102.n	Changing a relay management mode («Manual On», «Manual Off», «Watchdog», «Schedule», «Schedule+Watchdog», «Logic»), where n is a relay channel

.1.3.6.1.4.1.25728.5500.6.103.n	Reset (is short term switching on/switching off a relay), where n is a relay number
.1.3.6.1.4.1.25728.5500.6.127.n	Common snmpTrapOID for all events, where n is a relay channel
.1.3.6.1.4.1.25728.5500.6.m.99	Common snmpTrapOID for all channels, where m is an event code (100, 101, 102, 103)
.1.3.6.1.4.1.25728.5500.6.127.99	Common snmpTrapOID for all events and all channels

Variables included into npRelayTrapData (varbind list)

OID	Date Type	Description
.1.3.6.1.4.1.25728.5500.3.1.0	Integer	A number of a relay channel, changing a status of which caused sending a TRAP notification.
.1.3.6.1.4.1.25728.5500.3.2.0	Integer	Relay operation mode. The next modes are available: 0 – Switched off manually 1 – Switched on manually 2 – Watchdog 3 – Schedule 4 – Schedule+Watchdog 5 – A channel is managed by the logic
.1.3.6.1.4.1.25728.5500.3.6.0	Octet String	Memo (textual description, encoding win1251).
.1.3.6.1.4.1.25728.5500.3.15.0	Integer	A current status of a relay: 0 – A relay is switched off 1 – A relay is switched on
.1.3.6.1.4.1.25728.5500.3.18.0	Integer	A source for changing the relay operation mode: -1 – Is not determined 1 – Web interface 2 – SNMP 3 – SMS 4 – HTTP API
.1.3.6.1.4.1.25728.5500.3.19.0	Integer	Time and date of changing a relay status.

SNMP TRAP ON THE POWER SOURCE OF A DEVICE

Information for the device **NetPing 2 IP PDU GSM3G 203R15** with a built-in ionister

Identification npBatteryTraps

SNMP v1 enterprise	.1.3.6.1.4.1.25728.3900.2
SNMP v1 generic-trap	enterpriseSpecific(6)
SNMP v1 specific-trap	1
SNMP v2 SNMPTrapOID	.1.3.6.1.4.1.25728.3900.2.0.1

Variables included into npBatteryTraps (varbind list)

OID	Data Type	Description
.1.3.6.1.4.1.25728.3900.1.1.0	Integer	Power source of a device: 0 – Battery power 1 – 220 V grid power
.1.3.6.1.4.1.25728.3900.1.2.0	Integer	Battery charge level, %

SNMP TRAP ON A STATUS OF A GSM MODEM

Information is for **NetPing 2 IP PDU GSM3G 203R15** with a built-in modem

Identification npGsmTraps

SNMP v1 enterprise	.1.3.6.1.4.1.25728.3800.2
SNMP v1 generic-trap	enterpriseSpecific(6)
SNMP v1 specific-trap	1
SNMP v2 SNMPTrapOID	.1.3.6.1.4.1.25728.3800.2.0.1

Variables contained in npGsmTraps (varbind list)

OID	Data Type	Description
.1.3.6.1.4.1.25728.3800.1.1.0	Integer	A status of a built-in GSM modem: 0 – OK 1 – Failed (no connection) 2 – FatalError (irrecoverable error, modem is locked)
.1.3.6.1.4.1.25728.3800.1.2.0	Integer	A status of a connection to a GSM network: 0 – Impossible 1 – HomeNetwork 2 – Searching 3 – Denied 4 – Unknown 5 – Roaming 255 – InfoUpdate
.1.3.6.1.4.1.25728.3800.1.3.0	Integer	GSM signal strength: 0...31 = 0% ... 100% 99 – Unknown 255 – Updating info

NetPing server room environmental monitoring solutions and IP power distribution units.

[ENG] 14. [DKSF 53/203.1 IU] HTTP API Device Support

[ENG] 14.1. [DKSF 53/203.1 IU] Controlling IO Lines

HTTP API in the device can be used for the integration with web applications without using an SNMP protocol. Controlling IO lines is available through HTTP API.

REQUESTING A STATUS OF AN IO LINE

```
http://192.168.0.100/io.cgi?ioN
```

where:

N – is a number of a line, indicated after ?io.

RETURNED VALUES

Error (incorrect request format or incorrect number of an IO line):

```
io_result('error')
```

Successful execution of a command:

```
io_result('ok', -1, 1, 339)
```

The first argument is always 'ok' (when there is an error in a request - 'error').

The second argument is always «-1», for the extending of the API in future.

The third argument is a current instantaneous status of an IO line, including a reset status.

The fourth argument is a pulse counter on the IO line.

The name of the JSON-P callback is fixed io_result(), and cannot be changed in a request.

SWITCHING THE LINE (IN THE OUTPUT MODE)

Switching to the status «0» or «1»:

```
http://192.168.0.100/io.cgi?ioN=0  
http://192.168.0.100/io.cgi?ioN=1
```

where:

N – is a number of a line, indicated after ?io.

Switching to the alternative (inverted) status.

```
http://192.168.0.100/io.cgi?ioN=f
```

where:

N – is a number of a line, specified after ?io.

Short term switching to the inverted status, i.e. issuing a pulse

```
http://192.168.0.100/io.cgi?ioN=f,5
```

where:

N – is a number of a line, indicated after ?io.

Duration in seconds is set after a comma.

CHOOSING THE OPERATION MODE OF AN IO LINE

Setting the operation mode of a line: «0» - input, «1» - output, «2» - output of logic:

```
http://192.168.0.100/io.cgi?ioN&mode=0
```

```
http://192.168.0.100/io.cgi?ioN&mode=1
```

```
http://192.168.0.100/io.cgi?ioN&mode=2
```

where:

N – is a number of a line, specified after ?io.

RETURNED VALUES

Error (incorrect request format or incorrect number of an IO line):

```
io_result('error')
```

A command is executed:

```
io_result('ok')
```

AUTHORIZATION

To add a login and password to the structure of a URL-encoded command, it is possible to use the next scheme:

- `http://<username>:<password>@<host>:<port>/<URL-path>?<parameters>`

where:

<username>:<password> – are credentials for authorization in a device web interface;

<host> – is an IP address of a device;

<port> – is a port of an HTTP server;

<URL-path>?<parameters> – is a URL-encoded command

[ENG] 14.2. [DKSF 53/203.1 IU] Relay Control

An interface of URL-encoded commands in a device can be used to integrate with web applications without using an SNMP protocol. A relay management is available through the interface of URL-encoded commands.

RELAY STATUS REQUEST

```
http://192.168.0.100/relay.cgi?rN
```

where:

N – is a number of a relay, which is indicated after ?r.

RETURNED VALUES

An error (incorrect format of a request or an incorrect relay number):

```
relay_result('error');
```

Successful completion of a command:

```
relay_result('ok', 2, 1);
```

where:

The first argument is always 'ok' ('error' in the case of an error).

The second argument: a relay management source (values are represented for the firmware DKST70):

- 0 – turned off manually
- 1 – turned on manually
- 2 – watchdog
- 3 – schedule
- 4 – schedule + watchdog
- 5 – logic
- 6 – schedule + logic

The third argument is an instant current status of a relay («0» or «1») considering functioning of the mode «Watchdog», after activating a reset, pulse issue, etc.

SWITCHING A RELAY

Changing a control source as well as manual turning on and turning off a relay:

```
http://192.168.0.100/relay.cgi?rn=s
```

After ?r a relay number is specified after = a number of the mode (source of control) is indicated.

where:

n is a relay number

s is a relay operation mode. It is one of the next values:

- 0 – Manual off
- 1 – Manual on

- 2 – Watchdog
- 3 – Schedule
- 4 – Schedule+Watchdog
- 5 – Logic
- 6 – Schedule+Logic

Switching (inverting) a relay, on <-> off:

```
http://192.168.0.100/relay.cgi?rn=f
```

A relay must be set to the mode «Manual off» or «Manual on».

Short term switching a relay into an inverted status (issuing a pulse of reset):

```
http://192.168.0.100/relay.cgi?rn=f,10
```

Duration in seconds is specified after a comma. It is applicable to all modes except "logic".

RETURNED VALUES

An error is returned in case of a wrong format of a request, as a result of an incorrect/invalid value of a number of a relay or a mode.

```
relay_result('ok')  
relay_result('error')
```

AUTHORIZATION

To add a login and password to the structure of a URL-encoded command, it is possible to use the next scheme:

- `http://<username>:<password>@<host>:<port>/<URL-path>?<parameters>`

where:

<username>:<password> – are credentials for authorization in a device web interface;

<host> – is an IP address of a device;

<port> – is a port of an HTTP server;

<URL-path>?<parameters> – is a URL-encoded command

[ENG] 14.3. [DKSF 53/203.1 IU] Controlling Temperature Sensors

HTTP API in the device can be used to integrate with web applications without using the SNMP protocol. Via HTTP API, control of temperature sensors is available.

REQUEST OF THE STATE

```
http://192.168.0.100/thermo.cgi?tN
```

where:

N — number of the temperature sensor, indicated after ?t.

RETURN VALUES

Error in the request (wrong format or wrong number of sensor):

```
thermo_result('error')
```

Successful completion of the command:

```
thermo_result('ok', 36, 2);
```

where:

The first argument: always 'ok' (upon request error - 'error').

The second argument: current temperature.

The third argument: the sensor status

0 - Sensor not connected or malfunctioning

1 - Temperature is below normal

2 - Temperature is normal

3 - Temperature above normal

AUTHORIZATION

To add a login and password to the structure of a URL-encoded command, it is possible to use the next scheme:

- `http://<username>:<password>@<host>:<port>/<URL-path>?<parameters>`

where:

`<username>:<password>` – are credentials for authorization in a device web interface;

`<host>` – is an IP address of a device;

`<port>` – is a port of an HTTP server;

`<URL-path>?<parameters>` – is a URL-encoded command

[ENG] 14.4. [DKSF 53/203.1 IU] Controlling a Humidity Sensor

HTTP API in a device can be used for the integration with web applications without using an SNMP protocol. Controlling a humidity sensor is available through HTTP API.

REQUESTING A STATUS

```
http://192.168.0.100/relhum.cgi
```

RETURNED VALUES

Successful execution of a command:

```
relhum_result('ok', 55, 25, 2)
```

where:

The first argument is always 'ok'

The second argument is a relative humidity in %

The third argument is a temperature of a humidity sensor

The fourth argument is a status of a sensor:

0 – a sensor failed or is not connected

1 – humidity is below normal

2 – humidity is normal

3 – humidity is above normal

AUTHORIZATION

To add a login and password to the structure of a URL-encoded command, it is possible to use the next scheme:

- `http://<username>:<password>@<host>:<port>/<URL-path>?<parameters>`

where:

`<username>:<password>` – are credentials for authorization in a device web interface;

`<host>` – is an IP address of a device;

`<port>` – is a port of an HTTP server;

`<URL-path>?<parameters>` – is a URL-encoded command

[ENG] 14.5. [DKSF 53/203.1 IU] Managing an IR Commands Transceiver

An interface of URL-encoded commands in a device can be used to integrate with web applications without using an SNMP protocol. It is possible to control an IR command transceiver through the interface of URL-encoded commands.

SENDING AN IR COMMAND

```
http://192.168.0.100/ir.cgi?play=N
```

where:

N – is a number of a command.

RETURNED VALUES

```
ir_result('ok')  
ir_result('error')
```

An error is returned only if a request format is incorrect or a command number is wrong. Errors of the module IRC-TRv2 are not checked when a response is formulated.

AUTHORIZATION

To add a login and password to the structure of a URL-encoded command, it is possible to use the next scheme:

- `http://<username>:<password>@<host>:<port>/<URL-path>?<parameters>`

where:

<username>:<password> – are credentials for authorization in a device web interface;

<host> – is an IP address of a device;

<port> – is a port of an HTTP server;

<URL-path>?<parameters> – is a URL-encoded command

[ENG] 14.6. [DKSF 53/203.1 IU] Controlling GSM Modem

The HTTP API in the device can be used to integrate with web applications without using the SNMP protocol. Via the HTTP API, control of the built-in GSM modem is available.

SENDING SMS

```
http://192.168.0.100/sendsms.cgi?utf8
```

The URL is called by the POST method. POST data is an SMS text encoded in UTF-8.

To send SMS in encoding Windows 1251, you can use:

```
http://192.168.0.100/sendsms.cgi
```

REQUESTING A BALANCE OF A SIM CARD

```
http://192.168.0.100/ussdstart.cgi?requestcode
```

where:

requestcode – is a100x, which means *100#. In the code of the USSD request, «*» is replaced by «a», «#» is replaced by «x» (Latin characters).

RETURNED VALUES

Successful execution of a command:

```
ussdsend_result('ok');
```

GETTING A RESPONSE TO REQUESTING THE BALANCE OF A SIM CARD

```
http://192.168.0.100/ussdread.cgi
```

Evoke 20 seconds after requesting a balance of a SIM card.

RETURNED VALUES

Successful Execution of a Command:

```
ussdsend_result("response_from_gsm_oneparopa");
```

AUTHORIZATION

To add a login and password to the structure of a URL-encoded command, it is possible to use the next scheme:

- `http://<username>:<password>@<host>:<port>/<URL-path>?<parameters>`

where:

<username>:<password> – are credentials for authorization in a device web interface;

<host> – is an IP address of a device;

<port> – is a port of an HTTP server;

<URL-path>?<parameters> – is a URL-encoded command

NetPing server room environmental monitoring solutions and IP power distribution units.

NetPing server room environmental monitoring solutions and IP power distribution units.

[ENG] NetPing 2 IP PDU ETH 53R14 & NetPing 2 IP PDU GSM3G 203R15, User guide

[ENG] [DKST 51] Introduction

The document contains a description of preparing devices for remote power supply control (IP PDU) NetPing 2 IP PDU ETH 53R14 and NetPing 2 IP PDU GSM3G 203R15 for operation, external electric interfaces, and peculiarities of the usage.

A User Guide is designed for network administrators and users, who set up or operate a device. To work with a device properly, a user must have an idea about the principles of building and functioning of local networks as well as possess the next knowledge and skills:

- Basic knowledge in the area of local and global networks;
- Basic knowledge in the area of architecture and principles of work of TCP/IP networks;
- Basic knowledge in the area of architecture and principles of work of Ethernet networks.

[ENG] [DKST 51] Disclaimer and Copyright

The information, contained in this document, can be changed by a manufacturer without a prior notice. Although every effort was made to make the information in this document accurate and without errors, a manufacturer is not liable for their possible presence and for the consequences that may result from the errors herein. A manufacturer is not liable if supplied equipment, software and this user guide does not correspond to expectations of a user and his/her opinion about where and how to use all the above. All copyrights on supplied devices, described in this User Guide, as well as firmware and software of devices and this User Guide belong to NetPing global Ltd. Copying, replication and translation of this user guide to other languages are not allowed without a prior written permission of a rightholder. Copying, replication, changing, disassembling of provided software **are not allowed without a prior written permission of a rightholder**. For the part of software that is provided in source codes, there is a separate license agreement, which defines an order of its use and modification. Other trademarks used in this description belong to corresponding rightholders.

Developer and manufacturer:

NetPing east Co Ltd.

[ENG] [DKST 51] Shipping Kit for The Device

This shipping kit includes:

- NetPing 2 IP PDU ETH 53R14 or NetPing 2 IP PDU GSM3G 203R15 - 1 pc.;
- mate terminal block STK-15EDGK-3.5-8P - 1 pc.;
- power cord - 1 pc.;
- GSM antenna (for the version of the model NetPing 2 IP PDU GSM3G 203R15) - 1 pc.;
- screwdriver- 1 pc.;
- quick start guide - 1 pc.;
- package cardboard box - 1 pc.

[ENG] [DKST 51] Overview and Key Features

It is possible to connect up to two power consumers of the total capacity of 1500W to a device using controlled electric outlets. To be protected from a short circuit in load and/or exceeding the maximum permissible power, the device is equipped with an automatic built-in resettable fuse. Spreading the load capacity between the two channels is random. The load connected to the device is controlled using the own web interface, SNMP protocol, using HTTP API and by SMS (for a NetPing 2 IP PDU GSM3G 203R15 device with a built-in GSM modem). The device has a feature of a «watchdog» that allows to reboot connected equipment automatically if it freezes or according to a previously specified schedule. Electric load of each of the two channels is controlled independently from each other, at the same time, individual settings are possible for any of these channels.

Appearance

General appearance. A photo represents a model NetPing 2 IP PDU GSM3G 203R15



Front view



Back view

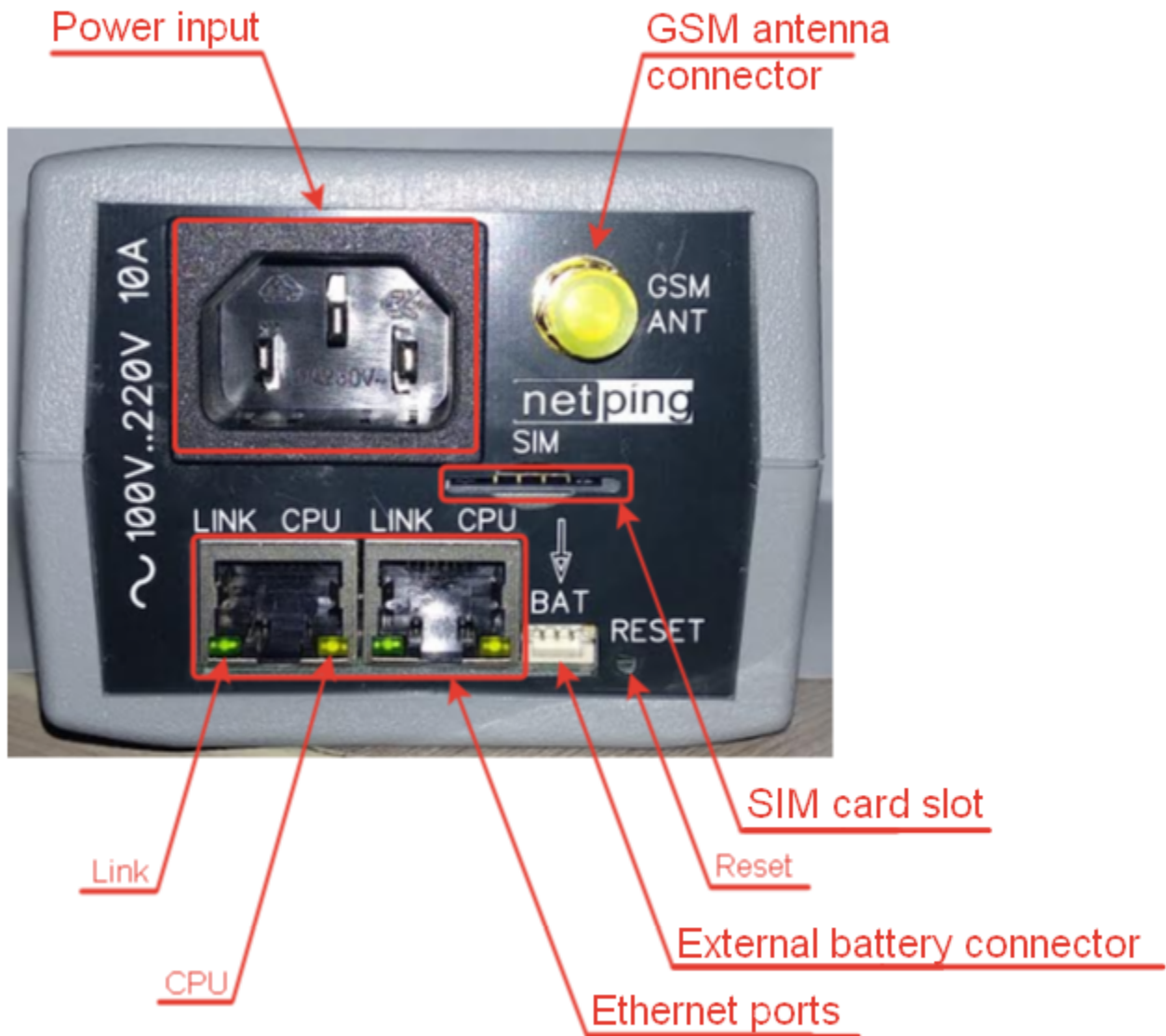


Device Specifications

Device Specifications	Value
Switched load power	up to 1,5 kW (in total for both channels with the random distribution between the channels)
Device power consumption	8.5 W
Supply voltage frequency	100..250B 50/60 Hz
Temperature range	-30C°..+50C° (non-condensing, normal humidity).
Device dimensions	145 x 78 x 57
Packaging dimensions	225 x 93 x 82
Weight	357 g.

[ENG] [DKST 51] Features of Local Controls, LEDs, and Sockets on a Case of the Device

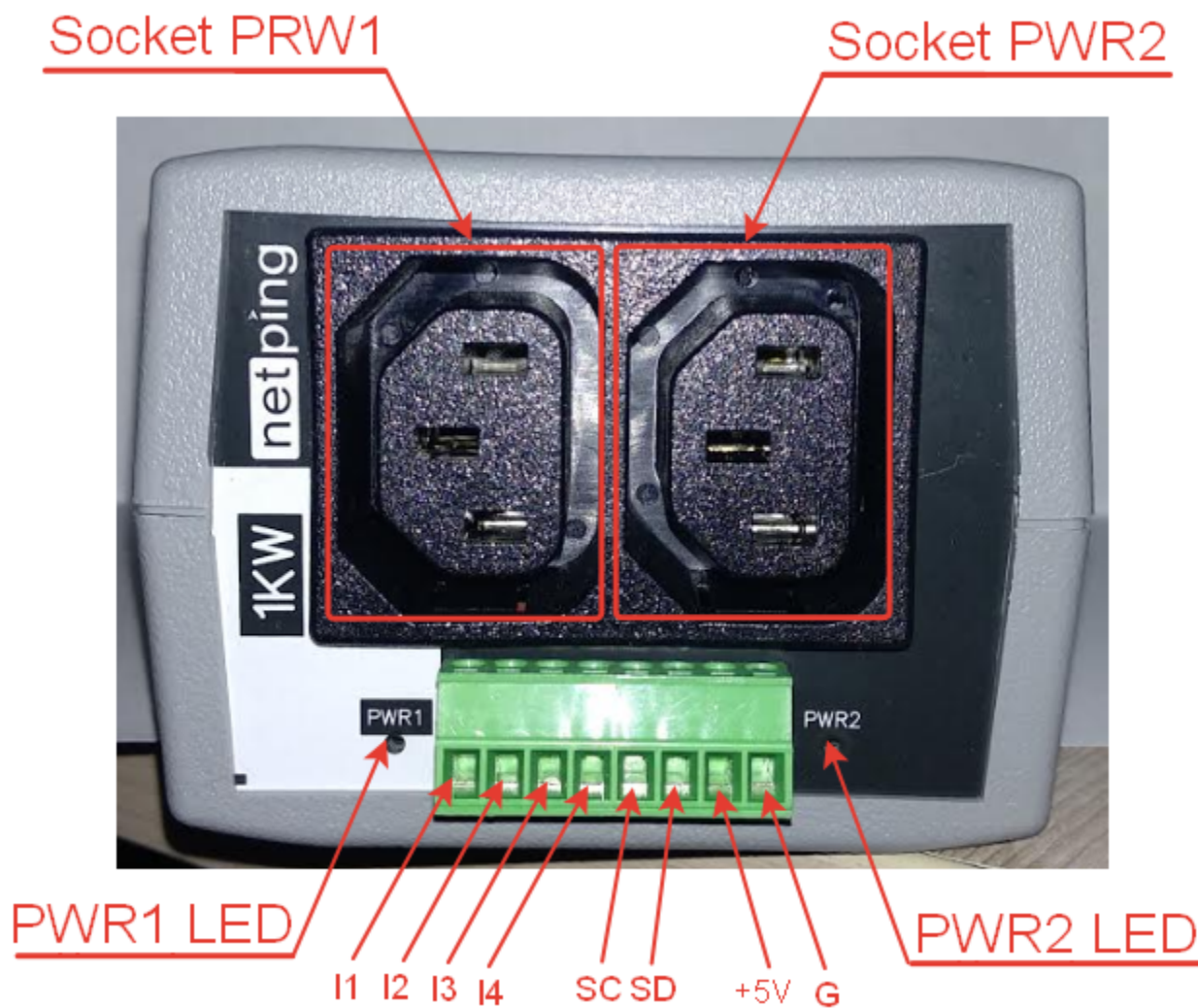
Front View



Element	Description
Power Input	A socket for connecting the device to the power grid. 100..250B 50/60 Hz
GSM antenna connector	A socket for connecting an external GSM antenna. SMA with a connector. It is included only in the model NetPing 2 IP PDU GSM3G 203R15 , with a built-in GSM modem.
Link	Ethernet LED. <ul style="list-style-type: none"> • Glows if there is a link; • Blinks when receiving packages.

CPU	<p>Operation LED.</p> <ul style="list-style-type: none"> • Glows continuously if a device is powered on; • Blinks 5-6 times when a device is switched on (while a microprogram is loading); • Blinks 15-20 times when resetting parameters of a device to default parameters; • Blinks sometimes when a device sends packages to the Ethernet; • Blinks intensely when shows a firmware update mode.
SIM card slot	A slot to insert a SIM card of the format Mini-SIM. It is included only to the model NetPing 2 IP PDU GSM3G 203R15, that has a built-in GSM modem.
Reset	A Reset button to reset a device to default parameters (it is done when the Reset button is pressed while a device is powered on). The external battery module should be switched off.
External battery connector	A connector for NetPing external battery module 85m2.
Ethernet ports	2x10/100 BASE-TX, 2 ports are an uncontrolled switch of the 2nd level, and the third port of a switch is connected to the CPU of the device.

Back View



Element	Description
---------	-------------

Socket PWR1 and Socket PWR2	Output sockets for remote control (switching on/off, rebooting) the load. Switched load power is up to 1,5 kW (in total, for both channels with a random distribution between the channels).
PWR1 LED and PWR2 LED	Socket LEDs. Glowing when switched on (there is the voltage at the output), not glowing when switched off (there is no voltage at the output).
I1-I4	IO lines for connecting external sensors of "dry contact" and controlling running devices. Specification of the line in the "input" mode: <ul style="list-style-type: none"> • the voltage of the logic «1»: > 8,2 V; • the voltage of the logic «0»: < 3,5 V. Line specification in the "output" mode: <ul style="list-style-type: none"> • the voltage of the logic «1»: push-pull 12V, up to 200mA; • the voltage of the logic «0»: 0V, до 200mA.
SC/SD	A bus for connecting the i2C sensors
+5B	Power voltage for external sensors or running devices. An acceptable range is 5..5,3V and output current is 250mA
G	Common

[ENG] [DKST 51] Connection, Installation, and Initial Configuration of the Device

The page shows the photos of the device NetPing 2 IP PDU GSM3G 203R15 in the text.

Step 1

Unpack the device and install it on a horizontal surface.



Step 2

For the model NetPing 2 IP PDU GSM3G 203R15, with a built-in GSM modem.

Plug a GSM antenna to the device and locate it in the area of the strong signal of a cell operator. The signal strength can be controlled using a cell phone according to the number of segments of the signal indicator on the display.



Step 3

For the model NetPing 2 IP PDU GSM3G 203R15 , with a built-in GSM modem

Insert a SIM card in a corresponding slot at the front panel of a device until you can hear a click. Pay attention to turning a SIM card contacts down and a cut-off corner into a device.

A SIM card should be inserted only in the device that is powered off.



Step 4

Connect the equipment (the load) the power of which should be controlled, to the «PWR» sockets at the back panel of a device. Power cords or adapters for connecting devices are not included in the shipping kit.

Connect external sensors or running devices to the IO lines of a device (see the details in the section «Connecting, Installing, and Initial Configuration of a Device»).

External sensors and load should be connected only when a device is powered off.

Important! It is not recommended to connect the real network and computer equipment to the device at once at the first switching on and getting acquainted with the operation logic of the device. Frequent cycles of switching on/off can cause the failure of the equipment. For the time of getting acquainted with the device, it is possible to plug any indifferent load to the power sockets (for example, a table lamp) or track a power status at power sockets watching the glowing of the corresponding LEDs.



Step 5

Plug the device to the power grid.

Important! A device is designed for plugging to the power grid of the voltage 100 V - 250 V and the frequency of 50/60 Hz. Do not plug a device to the power grids with other parameters!

The power indicator is glowing of the CPU LEDs at Ethernet ports at the front panel of a device. In the process of the device initialization, LEDs blink several times, which shows switching on a device, and after this, they will be glowing constantly.



Step 6

Connect a device to the local network or the computer.

Glowing of the Link LED at the corresponding Ethernet port at the front panel of a device will mean that the physical connection is successfully established.

The second Ethernet port can be used for connecting any Ethernet-devices, including other NetPing devices, «in a chain».



The device is connected and ready for the operation.

NetPing server room environmental monitoring solutions and IP power distribution units.

The device that has been just purchased or the device with parameters that have been reset to default values requires the initial configuration of network addresses and parameters for controlling the loads. After this, a device can be installed in the existing network. It can be configured further by using remote access to a device. More information on the configuration see in the document «Firmware Description». [Where can I get a document with the firmware description?](#)

[ENG] [DKST 51] Autonomous operation

This information is related to the [NetPing 2 IP PDU GSM3G 203R15](#) with a built-in super capacitor.

The full charge of the built-in super capacitor is ~ 2 hours.

The time of an autonomous operation of the device from the built-in super capacitor is 1-6 minutes depending on the number and type of connected sensors and actuators.

[ENG] [DKST 51] Connecting External Sensors and Accessories

It is prohibited to plug sensors and external modules into NetPing devices when a power supply is on!

You can find the information about configuration of the device and receiving notifications from sensors in the document: «User Guide».

The description of contacts

In order to connect sensors to the device conveniently, use the terminal block. Use a slotted screwdriver with a slot width of 2.5 mm to secure the wires in the terminal block. The pinout of the contacts on the terminal block is as follows:



Contact	Description
I1-I4	IO-line 1-4
SC	i2C digital bus contacts, synchronization line
SD	i2C digital bus contacts, data line
+	Supply voltage +5 V
G	Groundbed (common)

i2C Connecting sensors and devices to the i2C bus

Devices and sensors are connected via a 4-wire circuit. The color of the loop wires is identical for all sensors and devices manufactured by NetPing east Co Ltd.

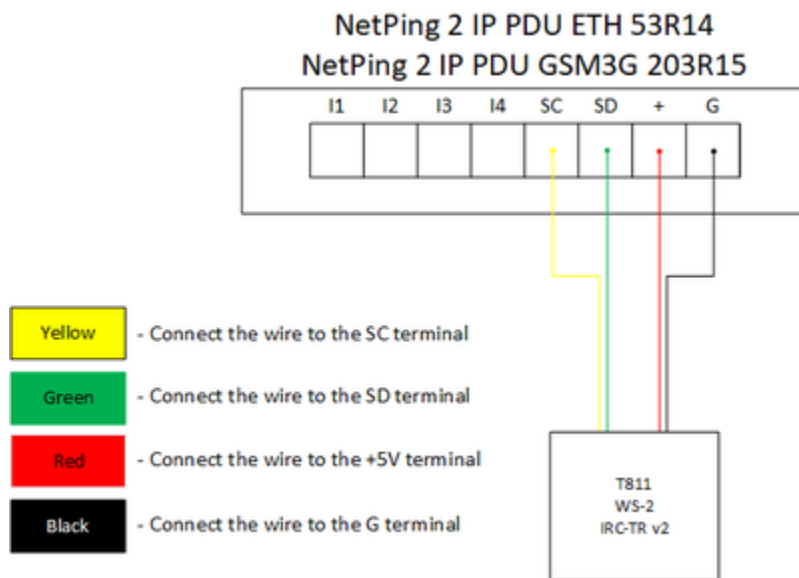
Only sensors and devices of own design are supported, these include:

- Temperature sensor T811 — up to 8 pc.;
- Humidity sensor WS-2 — 1 pc.;
- NetPing IRC-TR v2 — 1 pc.;

A sensor is packaged with an inseparable cable, with connectors on the ends. A cable length can be increased with the help of flat cable extenders of RC-4 sensor, which are sequentially plugged one into another. Otherwise, it can be done independently with the help of any wire with a minimum cross section of 0,4 mm². Maximum allowable length of a flat cable is 10 m from each sensor to a device (star topology).

All sensors and devices are connected in parallel to each other in the same terminal blocks according to the following scheme:

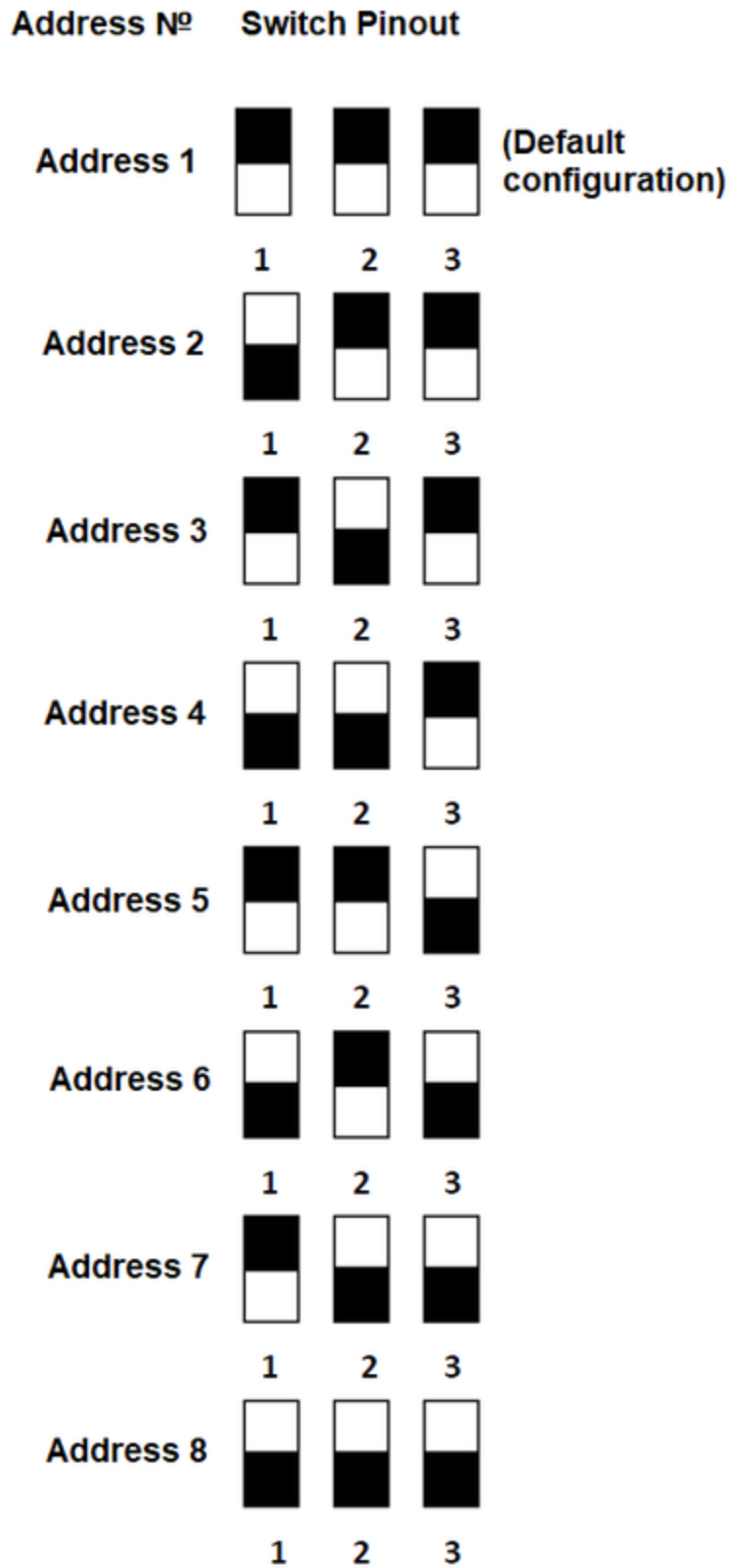
Sensor / Device Loop	Device terminal
Yellow	SC
Green	SD
Red	+
Black	G



Important! It is prohibited to connect temperature sensors with the same numbers (ID) to the device.

Set each temperature sensor with its own number using the switches on the sensor board. To set the switches, remove the top cover of the sensor

Depending on the ID, the temperature sensor will be displayed on the corresponding channel in the device's web interface.



Sensors of the "Dry contact" type

Attention! There are 12 V, up to 200 mA on the input / output lines of the device (IO1-IO4) in the "output" mode, . If used improperly, the connected equipment may fail.

The number of connected dry contact sensors is limited by free IO lines of the device and the total current consumption of the sensors, if they require additional power.

If the sensor needs extra +12 V power, you need to use one of the input / output lines in the "output" mode. Thus, it is possible to control the power of the sensor additionally using a logical level on the line. This can be useful, for example, in the case of sensors whose alarm is reset by removing power.

If the factory cable length is not enough, it can be increased by using [Cable 4 extender, 4m](#), which are connected to each other sequentially , or independently using any wire with a cross section of at least 0.4 mm².

The maximum permissible loop length is 100 meters.

The corresponding IO line to which the signal wire from the sensor is connected must be switched to the "input" mode in the device settings.

TWO WIRE SENSORS

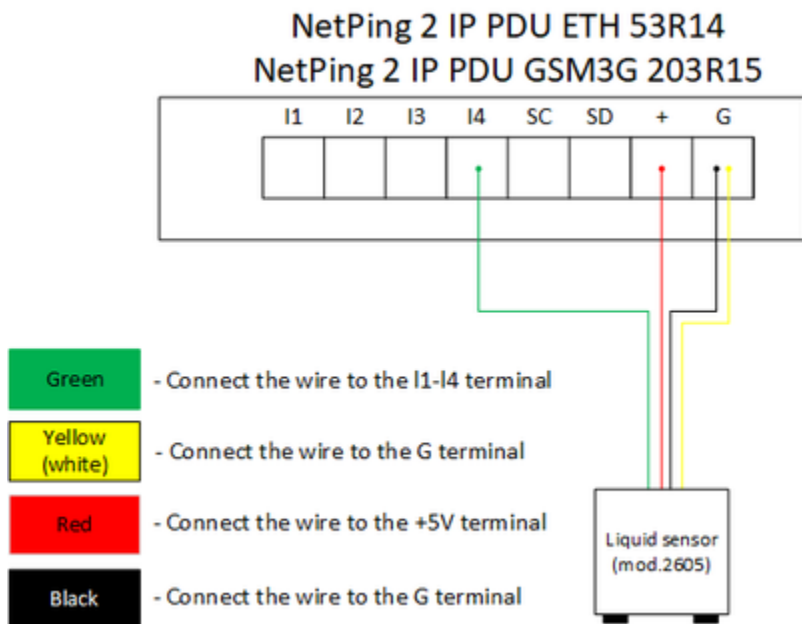
Sensors and other signal sources which do not require additional power or they are powered from other power sources and it is isolated from the signal line, connected to the IO and GND terminals of the device. The polarity of the connection is important unless otherwise directly indicated in the documentation for the sensor.

Such type of sensors include:

- [Supply voltage sensor](#)
- [NetPing Supply Voltage Sensor 995S2](#) (N.Z. and N.O. contacts (3 wires in total) - see the sensor documentation for details);
- [Door sensor metal](#)
- [Air Flow Sensor \(model AMC520\)](#)

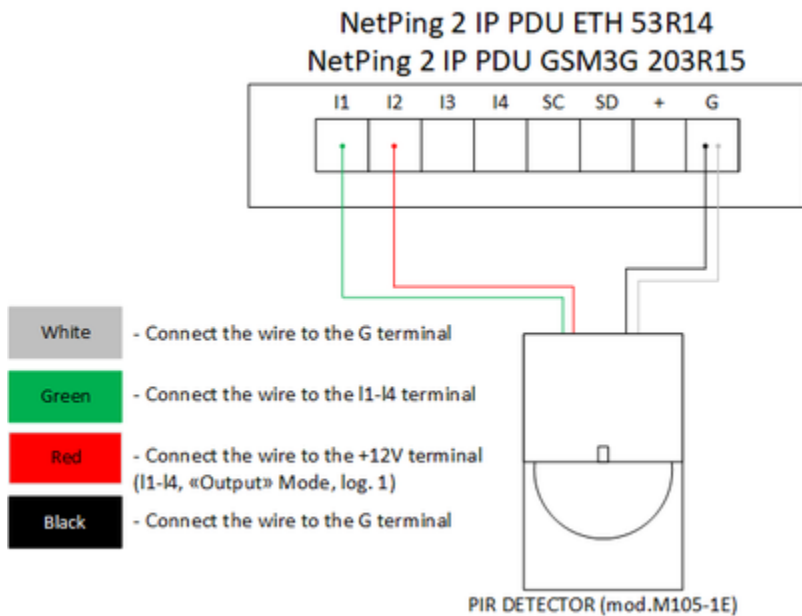
LIQUID SENSOR (MOD.2605)

Sensor Loop	Device Terminal
Green	I1-I4
Yellow	G
Brown	+
White	G



PIR DETECTOR (MOD.M105-1E)

Sensor Loop (coloured)	Sensor Loop (flat)	Device Terminal
Green	Marked (red) wire	I1-I4
White	The first wire after the marked one	GND
Black	The second wire after the marked one	GND
Red	The third wire after the marked one	+12 V (I1-I4 on the mode «output», log. 1)



Actuation Devices

Attention! There are 12 V, up to 200 mA on the input / output lines of the device (IO1-IO4) in the “output” mode, . If used improperly, the connected equipment may fail.

The number of actuation devices is limited by free IO lines of the device and the total current consumption of devices in active mode.

If the device requires +12 V power, one of the I / O lines in the “output” mode is used.

If the factory cable length is not enough, it can be increased by using [Cable 4 extender, 4m](#), which are connected to each other sequentially , or independently using any wire with a cross section of at least 0.4 mm².

The maximum permissible loop length is 100 meters.

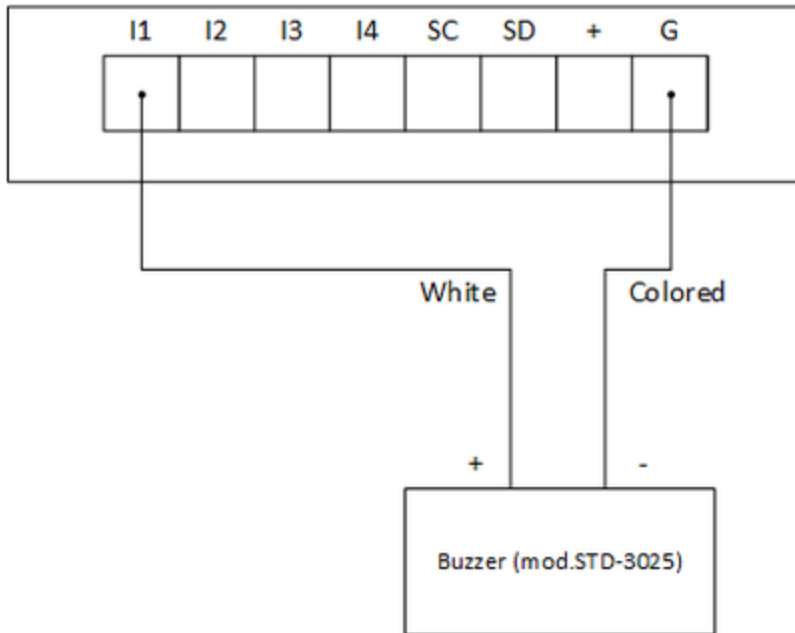
The corresponding IO line to which the signal wire from the sensor is connected must be switched to the “input” mode in the device settings.

BUZZER (MOD.STD-3025)

Buzzer wire	Device terminal
White	+12 B (I1-I4 in the mode «output», log. 1)
Coloured	GND

The logic level on the line in the “output” mode which is used for power will control the operation of the buzzer. When the log.1 - the buzzer is active, with the log. 0 - the buzzer is off.

NetPing 2 IP PDU ETH 53R14 NetPing 2 IP PDU GSM3G 203R15



NETPING AC/DIN SOCKET

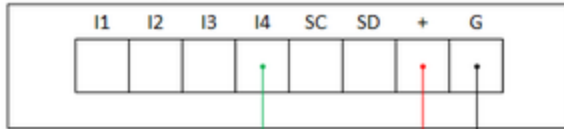
Socket Loop	Device terminal
Red	+5 B
Black	GND
Blue (green)	I1-I4
Brown (white)	-

NetPing AC/DIN socket uses a relay with normally closed contacts to switch the load. This means that if the control wire is not connected anywhere, 220 V will be present on the socket and the load will be turned on.

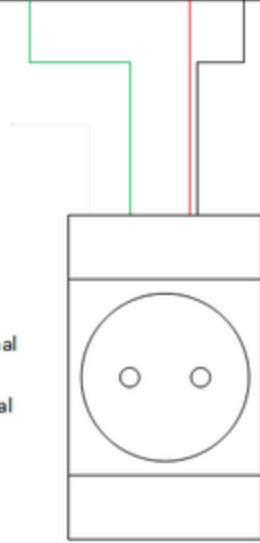
In the "log.0" condition, 220 V will be present on the IO control line at the output of the socket, the load will be turned on. In the "log.1" condition the socket will be de-energized, the load will be off.

Important! The brown (white) wire is not used and should not be connected!

NetPing 2 IP PDU ETH 53R14
NetPing 2 IP PDU GSM3G 203R15



- White (brown) - Leave unplugged
- Green (Blue) - Connect the wire to the I1-I4 terminal
- Red - Connect the wire to the +5V terminal
- Black - Connect the wire to the G terminal



Socket
NetPing AC/DIN

[ENG] [DKST 51] Using IO Lines in the «Output» Mode for Controlling External Devices

Caution! There is 12V and up to 200 mA at the input/output lines (I1-I4) of the device in the «output» mode (not a typical "discrete output"). If used not right, the connected equipment may fail.

Input-Output (IO) lines of a device can be used to operate as "input" as well as the "output" to manage external devices.

A device has four IO lines, corresponding to contacts I1 – I4 of a terminal block. IO lines are configured for the operation as an input or an output using a controlling web-interface of a device or using URL-encoded commands. All four IO lines can be customized independently.

IO lines can be controlled by SNMP commands, URL-encoded commands, via a web-interface or using SMS-commands (for devices with a built-in GSM modem).

Use cases include the following:

- Rebooting remote servers – an imitation of pressing “reset”;
- Remote management of an alarm, a light, a fan;
- Management of an electric lock, electric gates on a remote object;
- Management of smart home elements - watering flowers, opening-closing louvers, water pump, heating boiler, heaters, etc.
- Remote management of a power installation (diesel generator, gasoline).

Important! Correct electrical coordination of IO lines is required when connecting external executive devices.

Important! IO lines do not have galvanic isolation with a device! Remember about electrical safety when using relays that commutate 220 V circuits. All work must be done by specialists with a corresponding qualification who have a permit to work with the voltage!

It is acceptable to use intermediate relays with a power supply voltage 12 V from an external source. A controlled socket NetPing AC/DIN socket can be used for connecting IO lines. In addition, we can advise ready assembly relays, which can be connected to our devices:

- BM8070D a power relay 16A/250V for DIN-rail (check out the compatibility of this relay with the NetPing device model on the relay web page on the site);
- MP701 executive element (4 independent channels, 2 kW 10A each) (check out the compatibility of this relay with the NetPing device model on the relay web page on the site);

For more detailed information, please contact technical support at support@netpingdevice.com.

Electric Parameters of IO Lines

In the «output»: mode

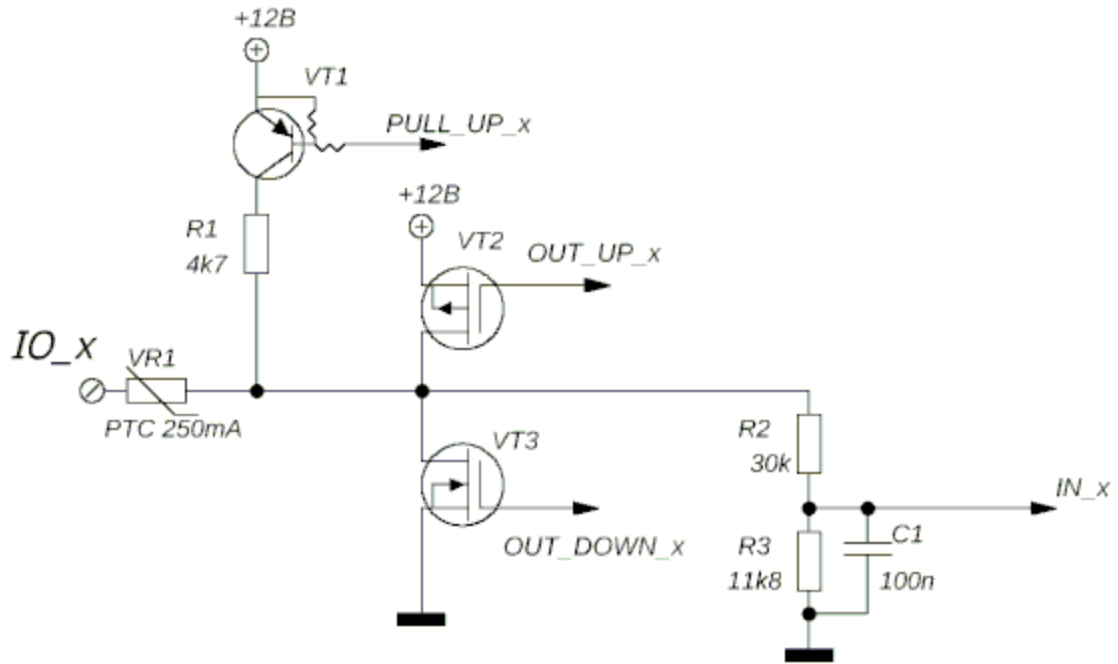
- the voltage of logic «1»: push-pull 12V, up to 200mA;
- the voltage of logic «0»: 0V, up to 200mA.

The push-pull mode allows controlling the loads, such as LED beacons, sirens, power relays without intermediate relays and signal amplifiers.

In the «input» mode:

- the voltage of logic «1»: > 8,2 V;
- the voltage of logic «0»: < 3,5 V.

Equivalent circuit



[ENG] [DKST 51] Resetting Parameters to Default Values

Resetting parameters of the device to default values is necessary in the next cases:

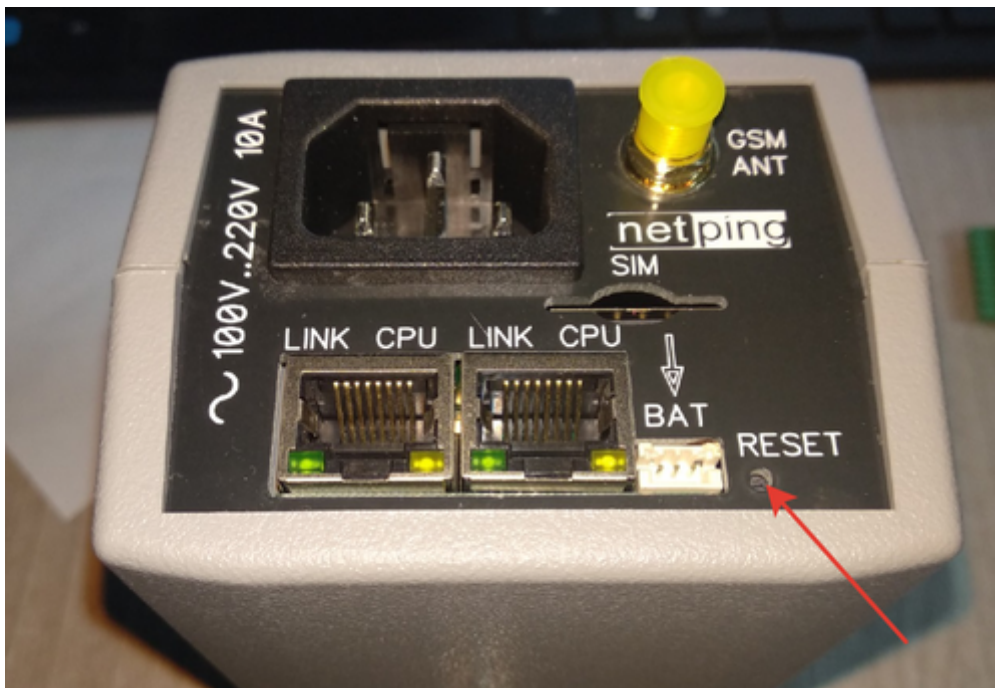
- a login and/or a password to the web interface of the device is lost;
- no information about a current IP address of the device;
- in some cases, after the firmware update procedure

This procedure sets all configured parameters of the device (an IP-address, access filters, a user name, a password, and other settings) into the default values.

To reset parameters in default values, perform the next actions one by one:

- disable the external module for batteries 85M2;
- power off the device;
- click the «Reset» button for resetting parameters;
- switch the device on, while keeping the «Reset» button pressed during 15-20 seconds;
- release the button, all parameters of the device are reset to default values.

Quick clicking the button for resetting parameters «Reset» reboots the device.



The device has got the next default parameters:

The User name: visor

The Password: ping

The IP address: 192.168.0.100

The Subnet mask: 255.255.255.0

The Gateway: not set

SNMP community: SWITCH

MAC-address: 00 a2 xx xx xx xx

Here, xx xx xx xx corresponds to a serial number of a device. Thus, all devices have unique MAC addresses after manufacture.

NetPing server room environmental monitoring solutions and IP power distribution units.

After resetting parameters to default values, there is a need to perform the initial configuration of the device – more information see in the document «Firmware Description». [Where to Get a Document with a Firmware Description?](#)

[ENG] [DKST 51] Operating, Storage, Transportation and Disposal Information

It is allowed to use the device only in excellent technical condition and for the direct purpose only according to the user guide. The operation of the device should be realized according to the «Rules for the technical operation of consumer electrical installations».

There is a need to immediately eliminate all factors that can cause a decrease in the safety level of using the device.

The device is designed to work continuously without interruptions around the clock indoors only. A room designed for the device to operate in must fulfill the fire safety requirements.

When used within operating conditions, the device is resistant to the air temperature from -30°C to +50°C (without condensation, normal air humidity).

The design of the device provides reliable uninterrupted operation during a continuous period of time without the need for special maintenance. Developed functionality of remote configuration allows changing any parameters remotely and centrally for a large number of devices.

If there are any problems in using the device and for the additional information, contact the technical support please using the address support@netpingdevice.com.

The device can be stored at the temperature between -40°C and +70°C and the atmospheric pressure from 675 to 800 mm Hg. It can be stored in the conditions of the extreme values of the range for no more than 6 hours.

In storage rooms, the content of dust, vapors of acids and alkalis, corrosive gases and other harmful impurities that cause corrosion should not exceed the content of corrosive agents for the atmosphere type 1.

The device can be transported by any means of transport, when packaged and protected from the direct impact of atmospheric precipitations at the temperature between -40°C and +70°C. It can be transported in the conditions of the extreme values of the range for no more than 6 hours.

Before unpacking after transporting at the temperatures below zero, there is a need to keep the device packaged at normal conditions during an hour minimum.

This device poses no danger to life, people's health or environment and after the service (operation) period is over, it must be disposed of by the service organization according to the regulations, rules, and ways that are effective at the disposal site. The device can be recycled. Do not throw it away together with the household wastes.

[ENG] [DKST 51] Safety Precautions

This device is not intended for home use.

The next information will allow users to avoid both injuries and damaging a device as well as connected equipment.

- A device must be plugged to a power supply socket with a ground or a hole, where a contact is inserted. A contact must be located at a plug and be connected to a ground wire. Grounding must be implemented according to ГOCT P 50571.21-2000;
- A device must be used only in a power supply network, indicated by a manufacturer. Using any other power supply types may lead to damaging a device;
- Do not use damaged power cords as well as insecurely fixed wall sockets;
- An electric equipment with electricity consumption of more than 1500 W must be grounded;
- It is prohibited to open the case of a device;
- Do not drop a device and avoid impact of force on it;
- Protect a device from high humidity levels. It is prohibited to touch a device and a connected equipment with wet hands;
- Use devices only indoors;
- Do not place a device at a surface or inside heating devices, such as microwaves, stoves and heaters;
- Do not use a device in locations marked as potentially explosive, with a possibility of an explosion and a ban on the use of wireless devices (works for devices with a built-in GSM modem);
- Protect a device against fire and extreme temperatures;
- Avoid impact of direct sunlight on a device;
- Do not allow children to use a device.

Attention! Failure to comply with these conditions is a violation of the operating conditions of a device.

[ENG] [DKST 51] Firmware Update

The device supports firmware update through the web interface of the device. You can find more information in the document «Firmware Description». [Where to Get a Document with a Firmware Description?](#)

[ENG] [DKST 51] Warranty

The manufacturer guarantees normal operation of the product within 24 months from the date specified on the warranty sticker if a buyer follows operating and storage conditions. Manufacturer warranty applies only to failure of a device which occurred because of defects in manufacturing process of products and components used. If during a warranty period the manufacturer receives a notice of such defects, it will repair or exchange the product (by its own discretion). If the manufacturer is unable to repair or replace a flawed item during a period of time determined by the current legislation, the manufacturer according to a customer's wish can return the amount paid for the product at the time of purchase. The manufacturer provides a limited warranty on firmware and device configuration software. In case of detecting any errors in the software which became known to the manufacturer on its own or from a customer, the manufacturer will fix these errors within a reasonable time and provide an update for the customer. Only the errors that block normal use of the device at conditions and for performing functions described in this User Guide are a subject to mandatory fix. This warranty does not apply to cases when defects appear because of: a misuse of a device, any modifications of a device without a written permission of the manufacturer, opening up a device (a warranty sticker on the case of a device is damaged) except cases foreseen by this description; repairing by unauthorized personnel, using or storing a device out of the range of allowable temperature and humidity, pressure, a software modification, and the reasons, listed below:

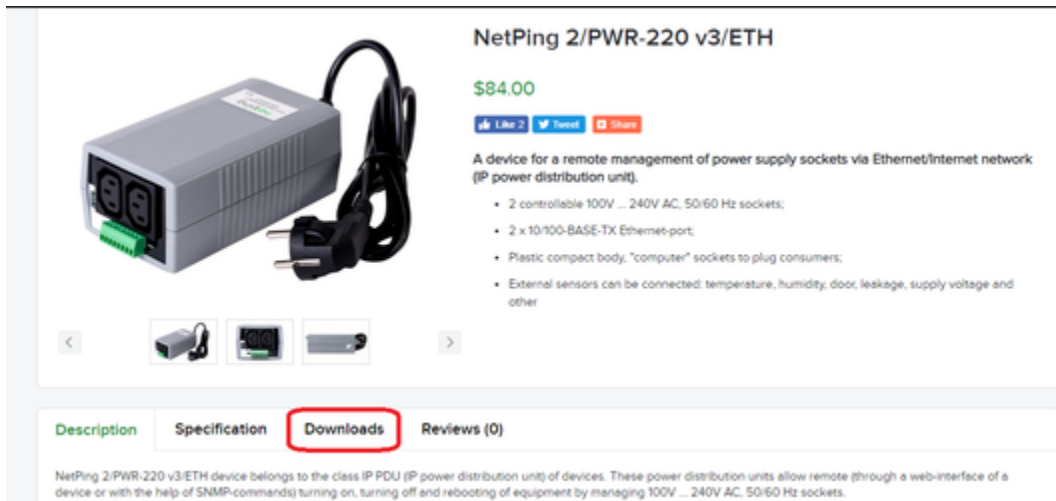
- A device failed because of the problems in a public electric network, plugging a device into power supply networks with invalid parameters, absence of grounding, etc. (power fluctuations and surges, overloading, etc.);
- A device failed because of having liquid inside;
- A device failed as a result of extreme temperatures;
- A device failed because of mechanical damage;
- A device failed because of connecting a power supply unit with invalid output voltage or a defective power supply unit;
- There are foreign objects, insects, etc inside the enclosure;
- During operation a voltage bigger than an allowable voltage range by the Ethernet standard has been supplied to the ports of a device.

[ENG] [DKST 51] Where to Get the Document with the Firmware Description?

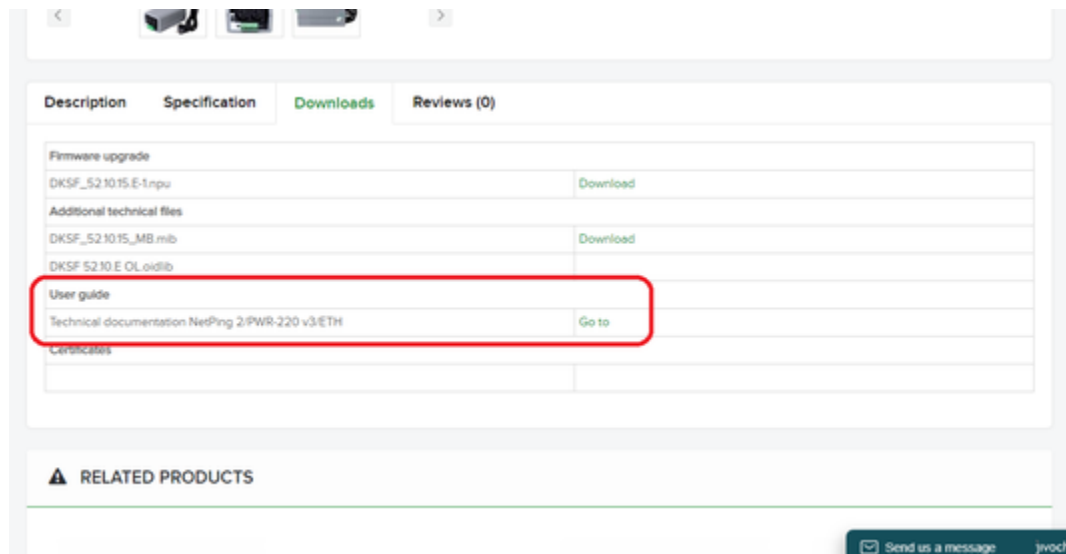
Configurations and operating order with management interfaces of a device are given in the document «Firmware Description». The documentation is updated according to the changes that are made to the firmware.

To find a current version of the «Firmware Description» at the [manufacturer's website](#), there is a need to:

1. Go to the page of the description of a necessary device:
 - NetPing 2 IP PDU ETH 53R14;
 - NetPing 2 IP PDU GSM3G 203R15.
2. Go to the section «Downloads»:



3. Go to the link «User Guide»:



The version in the document «Firmware Description» must match the firmware version of your device, i.e. the first two digits in the document name must be the same as the first two digits in the name of the firmware version of your device.

NetPing server room environmental monitoring solutions and IP power distribution units.

[ENG] [DKST 51] What to Do if There Are Still Some Questions?

[Technical support for Netping devices](#)

Manufacturer's website: <http://www.netpingdevice.com/>

Kindly see [our blog](#) for articles with examples of using the devices and news on issuing new firmware versions.

If any problems arise when using a device or there is a need for additional information, contact a technical support by the address support@netpingdevice.com.

The pages of the devices at the manufacturer's website are as follows:

- [NetPing 2 IP PDU ETH 53R14](#);
- [NetPing 2 IP PDU GSM3G 203R15](#).

Information about the functionality of the device and its configuration through the web interface is given in the document «Firmware Description». [Where to Get the Document with the Firmware Description?](#)